



**Safety to Life  
Through Code  
Enforcement**

# CCCO

North Carolina Council of Code Officials

## WHAT COULD HAVE BEEN

*Tim Bradley, Senior Deputy Commissioner of Insurance*

The lack of a problem should not necessarily mean the removal of a regulation. Our codes and regulations are filled with requirements that have been borne out of disasters, incidents, loss of lives, and catastrophes that have occurred over time. Many of these regulations have limited or removed the problem to the extent that we can become complacent about monitoring them. At almost every level of government existing and new regulations are under attack. I'm ok with that as long as it is accompanied by technical and analytical considerations because review is good, since even nature pulls its wings in when things get a little out of control. However, those of us who know the history of why certain regulations were put in place get nervous when they are removed because the problem seems to have gone away and we need to give folks a break. It shouldn't take a rocket scientist to figure out that one reason the problem went away is because the issue is regulated by the regulation put in place. Inconsiderate removal of the regulation without study in many cases will promulgate the return of the problem. The concern here is short term fixes that create long term problems. What nature gives us is never stale, because her adjustments have an eye on eternity. Man could take a lesson on planning from nature, with the thought of making decisions based on what is good for the future, not what is good for just today. We complain today because the ground is saturated and it's still raining, yet we wonder why we still have drinking water during times of heat and drought. Can you imagine what kind of shape the world with be in if man's wishes controlled nature? I remember telling one of my daughters who was upset because it was raining and she couldn't go outside that there was probably a farmer somewhere who had prayed for that rain the night before. Several of our founding fathers opposed the constitution because they said it would take away our liberties, yet many today would conclude that it is in fact keeping our liberties intact.

I was reading an article last week in the September *NFPA Journal* about the code changes that had taken effect because of the occurrences of Sept 11, 2001. I couldn't help but wonder how

many years it would be before people were challenging those rules because the economy needs a boost. There was a tragic nightclub fire in the northeastern part of our country several years ago that killed over 100 people. I remember very clearly presenting before several legislative committees in the months following on how we could prevent that from occurring in North Carolina. Three years later the fire service in NC had its hands full just keeping sprinklers in bars and clubs at all, let alone improving the level of protection. I heard a conversation several weeks ago about reducing weight restrictions on trucks because statistics weren't showing the number of accidents involving weight problems with trucks. I wonder if it ever dawned on them that the reason the statistics were down was because we currently have weight restrictions on trucks.

1971 There are rules and regulations that need to be removed or corrected. No question. If they are either antiquated or no longer necessary, take them out, but don't remove them simply because the economy needs a boost or new data shows a reduction in the problem. For example, maintenance requirements on equipment based on old technology should be corrected, but maintenance corrections made because we aren't having as many failures is a false prophet. Remove the regulation and in a few years you'll have a problem, again. It's easy to "raise the alarm" when we have an incident involving the loss of life that catches the public attention. Some call those teachable moments because it offers an opportunity for prevention personnel to bring about change while the issue is fresh on the public mind. Follow an issue of this nature and you'll find prevention oriented folks lining up before public bodies to promote regulation. It's much more difficult to "raise the alarm" when a rule or regulation is challenged 20 years after it was put in place because there doesn't seem to be a problem any more. How many of us line up before public bodies to continually monitor what regulations are under attack?

As code officials we should promote the review of codes and regulations based on performance and need, not on economy and convenience. In that same light, we also need to be prepared to defend them based on need as well. We cannot allow ourselves to be lulled into a tired sort of indifference, because as individuals charged with protecting the public; it is as bad for us to be indifferent toward safety issues as it is others to oppose them.



# News from the NC Ellis Cannady Chapter, IAEI

## Presidential Views

2012 promises to be an interesting year. New technologies are coming to the market, and with these new technologies come new electrical hazards and installation challenges. This will also be a year of likely contentious national and local elections, which always bring opinions and arguments, sometimes between people who have never had disagreements before. As individuals we will need to remember to be civil and gracious, putting aside our differences so that as an association we can continue our critically important work together - promoting electrical safety education and public awareness.

When I first started attending IAEI meetings back in the early 90's, I realized I had found a group of people who shared the same passion for protecting our families and communities from electrical hazards. As a Testing Laboratory Inspector, I came to see that my job had much in common with government Inspectors. After 20 years of inspecting electrical products in the field and in the laboratory, I have gained a special appreciation for the scrutiny of these products, and for the Inspectors who enforce our laws designed to keep our citizens safe from shock, fire and electrocution, both at home and at work. Having spent a great deal of time with our Inspector and Contractor members, I realize how much we help each other complete this picture. From the correct design of components and wiring, to the manufacture and testing of products, to the installation and inspection of buildings, homes and installed products, we complete a chain of events that culminate in the mostly unseen continued safe operation of electricity in our lives.

Our continuing education classes have been a great success, thanks to our hard working members who spend their valuable time bringing NEC education to areas around our State, providing affordable and local classes. Still, two great challenges remain for us. One is the education of the public including our children, so that people may have an appreciation for this work, and that children can grow up with an opportunity to enter the electrical safety and related professions. The second is the education and awareness for politicians and other groups who have agendas contrary to the critical need to protect our citizens from harm. As we move forward, we can use technology and new means of publicizing the goals of our industry, including special presentations and public forums.

I look forward to serving our membership as President of the NC Ellis Cannady Chapter, it is a great honor and privilege to represent this group of special people who I have come to love and respect. My door will always be open, please call, email or visit me at any time. For those of you who can attend, I hope to see you at our upcoming NC Electrical Institute, and later this year at our Southern Section and Annual meetings.

*Best Regards,*  
**Greg Smith**, Chapter President  
MET Laboratories  
901 Sheldon Drive  
Cary, NC 27513  
gsmith@metlabs.com  
800-321-4655 (Office)  
919-524-4555 (Cell)

## Industry Events

### NC IAEI Continuing Education 1 Day Seminar

NC IAEI Continuing Education 1 Day Seminar  
January 12, 2012  
Martin Community College Auditorium  
1161 Kehukee Park Road  
Williamston, NC 27892

### NC IAEI Continuing Education 1 Day Seminar

January 26, 2012  
Public Safety Training Facility  
1510 North Church Street  
Greensboro, NC 27405

### NC Electrical Institute

April 3-4, 2012  
North Raleigh Hilton  
Raleigh NC

### NFPA Conference & Expo

June 11-14, 2012  
Mandalay Bay Convention Center  
Las Vegas, Nevada  
<http://nfpa.typepad.com/conference/>

### NC Association of Electrical Contractors

Annual Convention & Tradeshow  
June 14-17, 2012  
Bay Watch Resort, Myrtle Beach SC  
<http://www.ncaec.org/TradeShow.html>

### Carolinas Electrical Contractors Association

Annual Convention  
June 20-23, 2012  
Marriott Hilton Head Island, SC  
<http://www.carolinaseca.org/convention.htm>

### IAEI Southern Section Convention

October 2012  
New Orleans, LA  
See our website for more information and directions & maps:  
[www.nciae.org](http://www.nciae.org). (Meetings page).

### NCIAEI Electronic Newsletter

Our newsletter continues to be our main form of communication to our members. In addition to our quarterly newsletters, we have continued to send out special announcements for Continuing Education classes. We're also advertising Jobs available - Three inspection jobs were advertised in 2011. Please send us any news and details of upcoming jobs - go to [www.nciae.org](http://www.nciae.org) (Contact us page), or forward to any of our members.

### Retirements:

Steve Carden retired from Durham City/County December 30, 2011. Steve has worked for Durham City County Inspections since 1978, and was promoted to Electrical Field Inspections Supervisor in

1999. He began his career as an electrician in 1968. Thanks Steve for your hard work and dedication to electrical safety. You will be missed at Durham City County Inspections. We hope to see Steve at some of our upcoming meetings.

## NC Chapter Annual Meeting

The NC Chapter Annual Convention was November 6-8, 2011 at Childress Vineyards in Lexington. It included many outstanding events, beginning with the Sunday night Pig Pickin get together at the Childress Racing Museum. The Ladies program included a tour of the Moravian Cookie factory and local shopping.

At the banquet, Steve Carden Received the Inspector of the Year award, Mark Griffin received the Distinguished Service Award, Danny Thomas received the Richard B. Boyd Award. Greg Smith was installed as 2012 Chapter President. See the Chapter website for awards photos.

The 2012 Meeting will be in Cherokee NC. Please make plans to attend, we hope to see you there. Details will be on the website soon.

## Behind the Scenes

Gerald Harvell accepts 3 year appointment to the ICC Electrical EDC Committee. Gerald and the other committee members of the ICC EDC (Electrical Exam Development Committee) have updated the entire ICC electrical exam to the 2011 NEC. This included rewording questions and checking for compliance to the 2011 NEC. The exams updated include: E1 Exam (Residential Electrical Inspector), E2 Exam: (Commercial Electrical Inspector), E3 Exam: (Electrical Plans Examiner). E1: updated 255 items and re-wrote 18 K-Type items. E2: updated 75 items. E3: reviewed and discussed 113 plan reading items (to determine if they could be used as exhibits) of which 55 were approved and cut-scored, reviewed 90 calculation type items of which 22 were approved and cut-scored, reviewed and cut-scored 25 new code items. Cut scoring was done for 112 items.

The committee meets as needed and will participate in questions that are challenged by anyone that takes the exam. This is an important appointment that helps bring all our codes closer together. A special thanks to Gerald for his continuing hard work improving our codes through the highest quality education.

## Electrical Incidents

**After N.C. Fire, Duke Energy Advises Customers to Suspend Use of Electric Car Chargers.** Duke Energy, the southeastern utility, has advised 125 customers with electric or hybrid cars to avoid using their home charging stations during the investigation of a fire in Mooresville, N.C., that apparently started near a charging station the company installed. One hundred of its customers in Indiana and 25 in the Carolinas have the same Siemens charging station found in the garage by firefighters responding to the Oct. 30 fire, according to Paige Layne, a Duke Energy spokeswoman. "Because the early report said the fire started somewhere in the vicinity of the charging station, we suggested they may not want to use them out of an abundance of caution," Layne said. There was no reason then to believe it was caused by the charger, she said, adding, "We still don't think there is."

Firefighters said a General Motors car was connected to a charger in the home's garage when they responded to the fire, which did an estimated \$800,000 worth of damage to the home, according to ABC affiliate WSOC. Iredell County Chief Deputy Fire Marshal Garland Cloer investigated the garage this morning with representatives of GM,

Siemens, Duke Energy and the U.S. Department of Transportation to ascertain how the fire started. Firefighters said other electric appliances were plugged in the garage when they responded to the fire, the report said. "It could take several days to take everything out of the garage", Cloer said, according to WSOC. "From the electrical wiring to the house, to the vehicles, to anything in the garage, it could have even spontaneously combusted," Cloer was quoted as saying. "We won't know until we sift through it and find all the evidence that we can find."

WSOC said the charger was a 240-volt unit built by Siemens for use with GM cars. The car is most likely the hybrid-electric Chevrolet Volt, GM's most prominent hybrid car model. Duke Energy CEO Jim Rogers has been a prominent proponent of electric vehicles (EVs), WSOC noted, adding that he has said he wanted to see more EVs and charging stations in Charlotte for the Democratic National Convention, which will be held there in 2012.

The National Highway Traffic Safety Administration (NHTSA) issued the following statement: The National Highway Traffic Safety Administration is aware of the fire that was reported in Mooresville, N.C., this past weekend and will be conducting a post-incident analysis. No conclusions have yet been reached regarding the cause of the fire. We are continuing to monitor the situation.

NHTSA researchers began studying earlier this year whether lithium ion batteries – the type of battery in the GM Volt – pose a fire hazard, AutoWeek.com reported. "We don't want anyone to burn down their house when they're charging their car," said Kevin Vincent, the agency's chief counsel, according to the report.

GM has assisted the study, giving researchers a tour of the battery lab that produces Volt batteries, the report said. GM did not respond to a request for comment. The U.S. Department Energy did not respond to inquiries.

## Product Safety

Very often we come across the statement "It's low voltage so it doesn't need to be inspected". In Many cases this is true, but certainly not in all cases. There are a couple of important questions to ask. Where is the low voltage coming from? Is the line voltage source a Listed device or a "Recognized component?". If it's a recognized component what are the limitations of that component? Is it protected per the certification requirements for the device, or has someone created a control panel? (Then the control panel would fall under regulations from another Standard). Does it contain a Lithium Ion battery? (These can represent explosion and fire risks). Is the low voltage output also low current? (High current can represent injury and fire hazards also). Recent incidents with EV batteries are a good example of this, also induction processes such as electroplating equipment. Many low voltage medical devices require certification due to risk of injury to a patient. Be sure to ask these questions if you encounter this statement, and if questions remain, contact your local product safety laboratory representative. There are several who are members of our NC IAEI Chapter.

## Safety Reminders

Most of our readers are already aware of these issues, but remember to pass these on to our friends and family and the general public whenever possible.

## Electrical Safety Tips To Watch for Outside.

**Watch for Frayed Cords.** One of the first signs of trouble homeowners may notice is a frayed or broken cord. Homeowners with outdoor cords and electrical outlets should always be on the lookout for damaged cords and receptacles. Unplug any equipment with frayed cords at once, and do not plug it back in until you have replaced those cords. Never attempt to patch a frayed cord back to

**Use Only Outdoor Cords.** Another common safety problem with outdoor appliances involves the choice of electrical cords. Because indoor cords are susceptible to weather damage, using them outside is extremely dangerous. When plugging in electrical appliances outside the home, use only outdoor-quality cords, which are designed specifically to withstand conditions such as rain, snow and wind.

**Be Safe Around Outdoor Power Sources.** Not all outdoor electrical sources are under your control; use caution with these power sources as well. If you have power lines near your home, steer clear of them as much as possible—and children should learn to never play near power lines. In the case of downed power lines, contact your power company immediately. Be aware of underground power lines as well—before you dig anywhere on your property, be sure to contact the power company to ensure you will not be digging near underground power lines. If you cut a power line, you could suffer a severe shock, and you could potentially be billed for any damage you do.

## Consumer Product Safety Commission Safety Alert: Install Ground-Fault Circuit-Interrupter Protection for Pools, Spas and Hot Tubs.

The U.S. Consumer Product Safety Commission (CPSC) recommends installing and using ground-fault circuit-interrupters (GFCIs) for protection against electrocution hazards involving electrical circuits and underwater lighting circuits in and around pools, spas, and hot tubs.

CPSC is aware of more than a dozen electrocutions and a similar number of electrical shock incidents involving circuits around swimming pools between 1997 and 2002. Electrical incidents involving underwater pool lighting were more numerous than those involving any other consumer product used in or around pools, spas, and hot tubs.

The greater danger associated with electrical shock in a swimming pool is that anyone in the pool may be rendered immobile and unable to rescue themselves or to call for help. Drowning becomes a likely outcome, even if the current is not immediately lethal. Bystanders and would-be rescuers risk serious injury if the current flow isn't stopped before they make contact with a conductive fixture, such as a ladder, or enter the water to try to help a victim.

While grounding provides essential protection for pool, spa, and hot tub equipment, GFCIs are the most effective means for protecting people against electrical shock hazards of this nature.

A GFCI constantly monitors the flow of current through a protected lighting fixture, pump motor or appliance circuit and senses any loss of current to an outside path. If the current flowing into an electrical appliance or fixture differs by a very small amount from what flows back out, the GFCI instantly interrupts the current flow to prevent a sustained, lethal level of electricity from reaching the consumer. The consumer may feel a painful shock but should be protected from electrocution.

The National Electrical Code (NEC) requires GFCI protection for cord- and plug-connected pumps on pools, spas, and hot tubs; 120-volt underwater lighting fixtures; and receptacle outlets in the vicinity of pools, spas and hot tubs. Today, the code prohibits electrical installations closer than five feet from water and requires GFCI protection for all electrical equipment, including 240-volt equipment located five to 10 feet from the water and for receptacles within a 20-foot perimeter.

Older pools, spas and hot tubs may not have adequate GFCI protection. In particular, pools older than 30 years may not have GFCI protection on underwater lighting circuits. Because the NEC provision for spas only became effective in 1981, even somewhat newer spas or hot tubs may not be protected.

CPSC urges consumers to have an electrician who is qualified in pool and spa repairs install adequate GFCI protection for all pool, spa, and hot tub electrical equipment and for underwater swimming pool lighting fixtures. Additionally, outdoor outlets that could potentially be used to plug in electrical appliances (e.g., radios, pumps, washers) used near the pool also should be equipped with GFCI protection. Remember to test the GFCI regularly to be assured of continued protection.

## Code Enactments and Activity

The NEC 2011 should become law in NC sometime in 2012, but due to delays and objections no one is really sure exactly when this will take place. The objections were non-specific form letters, some were not even signed. All codes except electrical would go into effect on June 1, 2012. One change is that CO2 detectors will be required in single family, duplex, town houses only where a fossil fuel is used for heating, cooking, or for any kind of appliance. The following electrical codes were sent to committee: 210.12B, 210.62I, 404.2C, 406.4D4.

## Continuing Education with NC IAEI

Our continuing education classes for 2011 were a great success! Thanks to all those who attended, and a special thanks to our instructors After the NC Electrical Institute, check our website for Spring and Summer Continuing Education. We'll be bringing you exciting new and relevant topics and knowledgeable instructors. See our [www.nciae.org](http://www.nciae.org) Education and Meetings pages. Remember the importance of contact hours, and the great benefit students receive with a live instructor and classroom interaction

## On Our Website

Remember to check the NC IAEI website regularly! We are making continuous improvements and always have great information on the NEC, on Continuing Education class schedules, code interpretations, important documents and exciting technology news.

Go to our website for an electronic version of this newsletter. [www.nciae.org](http://www.nciae.org),



## News from the NC Building Inspectors Association

Merry Christmas Et Happy New Year from  
NCBIA,

It has been a good 2011 and we're looking for a better 2012. Residential construction is still in its doldrums, commercial building is doing okay, presidential politics are as ugly as a Boston Terrier's backside, and building inspectors are still making good calls in the office and in the field, offering great service, and making the world a better place to live. If you think I'm being the least bit sarcastic, you are dead wrong. I have seen some pretty remarkable efforts by inspectors statewide; and seen these efforts produced by individuals and teams in departments that have been ravaged by budget cuts. We've all had to do more with less, and I think we've done quite well. You've got to love the old saying, "There is nothing in the world that can stop me from doing the best I can, with what I've got today." Make sure the person who is working right beside you knows how valuable they are to you, and practice ways to ensure that your efforts serve one another. If you can do that, you'll be surprised how much benefit the both of you will receive.

We're looking for an exciting, productive and informational series in the Winter Code Seminars. Each of you should have gotten a flyer with the course schedules, dates and locations. If you can't find your copy, you can print it from the NCBIA website at [www.ncbia.org](http://www.ncbia.org). For the multiple certificate holders make sure and note the topics each day: Monday-Building, Tuesday-Mechanical, Wednesday-Plumbing, Thursday-Electrical, and if you attend all four days you can satisfy your "Fire" Con. Ed. requirements. The guest presenters will spend a lot of time on the practical code applications of the 2012 energy code, (notice I said code application, not theory). We'll have a program on egress presented by the ICC and they always do an excellent job, we'll cover Law and Administration (everybody constantly asks for reviews on L & A, particularly after taking a level's test); also there will be a segment on 13D sprinkler systems...who can design them, who can install them, who can inspect them...we all need that information. There will be much more in the four day seminar, and those are just a few of the expected highlights.

The NCBIA has always been active in code development and we intend to become an even more recognizable participant in 2012. Tom Brown, the Area II Director has agreed to chair the Code Revision Committee. He will do an excellent job, but he will need your input. If you would like to submit a change to the codes please forward the request to Tom at [tbrown@monroenc.org](mailto:tbrown@monroenc.org). Tom will take it to the Code Revision committee where the process will start, and the merits of the change will be discussed and proposed through the

proper channels. The committee will keep all our members informed as to the status of the code change processes. If you have the desire to make a greater contribution to the code development process, please contact

Tom or your Area Director. We want your help! NCBIA is your organization, we are just here to help the organization provide a positive benefit for you.

Another important group has been quietly organizing in preparation for natural disasters and hazardous events in our state. The DCERT team (Disaster Code Enforcement Response Team) is being re-activated and has been meeting to organize and enlist our response personnel, and to integrate our activities with the state agencies who oversee disaster response efforts. If you are interested, and your jurisdiction can make you available for such a worthwhile activity, then please contact Amy Clifton at [amy.clifton@johnstonnc.com](mailto:amy.clifton@johnstonnc.com) #919-989-5065 or Steve Sudderth at [steve.sudderth@watgov.org](mailto:steve.sudderth@watgov.org) #828-264-4235.

Last but not least, please make sure that our contact information for you is correct. Each NCBIA Area Director now has an active email list for mass mailings. We should begin to use these lists more in 2012; and if you are not on the list you will not receive valuable information about code updates, changes in inspections activities, methods and materials, continuing education, and an array of other items of interest and of need. Use the NCBIA website, [www.ncbia.org](http://www.ncbia.org), find your county in the lists below the Board of Directors names, and send your area representative your current contact information so that he/she can keep their files current. We need to hear from you. You can always share items of interest with me, and I will gladly forward them in mass emails to our entire state group. Send notifications to me at [dand@cityofws.org](mailto:dand@cityofws.org).

I hope this Christmas season finds you in good health, in good spirits, and feeling truly blessed. I hope you had presents under the tree, I hope you felt a special "presence" in your life as you awoke on the morning of the 25th, and I hope you carry the wonderful blessings of hope, of faith, and of love for all, with you throughout the upcoming year.

The NCBIA looks forward to working hard for you in 2012....



**Education, Integrity, Professionalism**  
North Carolina's Building Inspectors

# NORTH CAROLINA BUILDING INSPECTORS ASSOCIATION

## EDUCATION SEMINARS—2012

The NCBIA Education Committee is proud to offer three Winter Code Seminars for 2012. Our goal this year is to provide comprehensive continuing education for multi-trade inspectors. Building Code training will be offered on Monday. Cross-training will be offered on Tuesday, Wednesday and Thursday for Mechanical, Plumbing and Electrical trades. Fire Code Certificates will be available for attendees who are present all 4-days. You are eligible for all 5-Certificates if you attend all 4-days.

**Building:** Monday will start off with an ICC presentation on the Building Code Chapter 10. You will receive instruction on the 2012 NC Residential Code energy provisions. The day will conclude with a session on Residential wall bracing.

**Mechanical:** The focus on Tuesday morning will be the 2012 NC Energy and Mechanical Code energy provisions. We will continue in the afternoon with a presentation on Law and Administration. The day will conclude with a session on Mechanical Code changes.

**Plumbing:** On Wednesday morning we will cover accessibility in bathrooms and toilet facilities. We will continue the day with presentations on Fire Stopping of Penetrations and NFPA 13D systems. The day will conclude with a session on Plumbing Code changes.

**Electrical:** The topics for Thursday morning will be Residential electrical systems based on the 2011 NEC. The day will conclude with a session on De-Rating and Load Calculations.

**Fire:** A portion of each day will be credited toward Fire CE training. Fire Code Certificates will be available for attendees who are present all 4-days

We welcome all inspectors, contractors, and design professionals. Daily registration is available if you cannot attend the entire seminar. We hope you will take advantage of one these valuable educational opportunities.

*Les Everett, Chair, Greenville  
Dan Dockery, Vice-Chair, W-S/Forsyth*

Please Check One!

Seminar 1: \_\_\_\_\_ Crystal Coast Civic Center, Morehead City, NC – January 23-26

Seminar 2: \_\_\_\_\_ Hampton Inn, Aberdeen, NC – February 27-March 1

Seminar 3: \_\_\_\_\_ Park Inn, Hickory, NC – March 26-29

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Jurisdiction or Company: \_\_\_\_\_

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

E-Mail: \_\_\_\_\_ Phone: ( \_\_\_\_\_ ) \_\_\_\_\_ - \_\_\_\_\_

If you are unable to attend all four days, you may register for individual days. **Please check the day(s) that you wish to attend! Or check "All 4 Days"! Code Officials! Also select the one area you wish to receive CE credit each day!**

	CODE OFFICIALS		Q-BOARD ID # _____
	or Members	Non-Members	For CE Credit
			Select One Each Day
Monday	\$ 60.00 _____	\$120.00 _____	Building _____ (B certificate number)
Tuesday	\$ 60.00 _____	\$120.00 _____	Mechanical _____ (M certificate number)
Wednesday	\$ 60.00 _____	\$120.00 _____	Plumbing _____ (P certificate number)
Thursday	\$ 60.00 _____	\$120.00 _____	Electrical _____ (E certificate number)
All 4 Days	\$240.00 _____	\$480.00 _____	Fire _____ (F if attending all 4 days)

Please pre-register and submit payment by 2-weeks prior to the seminar. A late fee of \$60 will be charged for day of seminar registration. Seating is limited to 150. Registration includes breaks and lunches.

- No Refunds. You may transfer your registration to someone else.
- NCBIA is an Approved Sponsor for the NC Board of Architecture.
- Attendance Certificates will be available daily (6-credit hours/day).
- Complete a separate registration form for each attendee.

**Please submit this form and a check payable to the NCBIA to:**  
**North Carolina Building Inspectors Association**  
**Attn: Jean Williams**  
**1202 Mail Service Center**  
**Raleigh, North Carolina 27699-1202**

Registration fees may be charged to Visa or MasterCard by providing the following:

Card #: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Expiration Date: \_\_\_\_\_ / \_\_\_\_\_ Signature: \_\_\_\_\_

Registration confirmations  
will not be sent.  
Please contact Jean Williams at  
[Jean.Williams@ncdoi.gov](mailto:Jean.Williams@ncdoi.gov) or  
**(919) 661-5880 (x260)**  
if you need to verify  
registration.

## NC BUILDING INSPECTORS ASSOCIATION WINTER CODE SEMINAR

<b>BUILDING</b>		<i>Monday, 1/23, 2/27, 3/26</i>	
<b>Time</b>	<b>Topic</b>	<b>Instructor</b>	<b>CE</b>
8:00 - 10:00	Chapter 10 (Egress)	John Gibson, ICC	8
10:00 - 10:15	Break		
10:15 - 12:15	Chapter 10 (Egress)	John Gibson, ICC	F
12:15 - 1:15	Lunch		
1:15 - 3:15	2012 Energy Code changes (Residential)	Mathis Consulting	F
3:15 - 3:30	Break		
3:30 - 4:30	Wall bracing (Residential)	Steve Knight, PE Structural Engineer	F
<b>MECHANICAL</b>		<i>Tuesday, 1/24, 2/28, 3/27</i>	
<b>Time</b>	<b>Topic</b>	<b>Instructor</b>	
8:00 - 10:00	2012 Energy Code Changes (Commercial / Mechanical)	Mathis Consulting	M
10:00 - 10:15	Break		
10:15 - 12:15	2012 Energy Code Changes (Commercial / Mechanical)	Mathis Consulting	M
12:15 - 1:15	Lunch		
1:15 - 3:15	Law and Administration	Les Everett, NCBA	F
3:15 - 3:30	Break		
3:30 - 4:30	Mechanical Code Changes	Dan Dittman, PE, NCDOI	M
<b>PLUMBING</b>		<i>Wednesday, 1/25, 2/29, 3/28</i>	
<b>Time</b>	<b>Topic</b>	<b>Instructor</b>	
8:00 - 10:00	Facilities	Laurel Wright, NCDOI	P
10:00 - 10:15	Break		
10:15 - 12:15	Fire Stopping / Penetrations	Jason Wharton, 3M 704-728-7597	F
12:15 - 1:15	Lunch		
1:15 - 3:15	NFPA 13 D systems	William Whaley, NCBA	P
3:15 - 3:30	Break		
3:30 - 4:30	Plumbing Code Changes	Bill Moeller, PE, NCDOI	P
<b>ELECTRICAL</b>		<i>Thursday, 1/26, 3/1, 3/29</i>	
<b>Time</b>	<b>Topic</b>	<b>Instructor</b>	
8:00 - 10:00	Residential Electrical	Don Shields, UL	E
10:00 - 10:15	Break		
10:15 - 12:15	Residential Electrical	Don Shields, UL	E
12:15 - 1:15	Lunch		
1:15 - 3:15	Derating / Load Calculations	Richard Watson	E
3:15 - 3:30	Break		
3:30 - 4:30	General Q & A	Education Committee members	



# News from the NC Plumbing Inspectors Association

## 2012 Plumbing Workshops

The Officers and Directors of the PIA are pleased to announce five workshops on the

2012 Plumbing Code.

Workshop locations and dates:

- (1) February 7, 2012 in Rocky Mount
- (2) March 13, 2012 in Morganton
- (3) May 9, 2012 in High Point
- (4) June 12, 2012 in Atlantic Beach
- (5) October 18, 2012 in Burlington

A registration fee of \$60 will be charged for members and \$70 for non-members for the 6 hours.

The workshops will consist of (3) 2-hour classes as follows:

- (1) 1st class – 2-hours, 8:15am to 10:15am – 2012 Plumbing Code Chapters 2-6

- (2) 2nd class – 2-hours, 10:40am to 12:40pm – 2012 Plumbing Code, Chapters 7-11
- (3) 3rd class – 2-hours, 2:00pm to 4:00pm – Appendix C and C-1 and Question and Answer Time

The classes are approved for 6-hours continuing education for inspectors and also 6-hours continuing education for plumbing contractors for the Plumbing and Heating Licensing Board.

Please pre-register (Jean.Williams@ncdoi.gov or Fax: 919-662-4414) at least 10 days prior to the workshop. Registration will start at 7:30am for all workshops. Lunch will be on your own.

PLEASE MAKE CHECKS PAYABLE AND RETURN TO:  
 NC PLUMBING INSPECTORS ASSOCIATION  
 ATTENTION: JEAN WILLIAMS  
 1202 MAIL SERVICE CENTER  
 RALEIGH, NC 27699-1202  
 Tel: 919-661-5880 ext 260 Fax: 919-662-4414  
 Jean.Williams@ncdoi.gov

## NORTH CAROLINA PLUMBING INSPECTORS ASSOCIATION WORKSHOP AGENDA FOR ALL LOCATIONS | 2012 PLUMBING CODE WORKSHOPS

7:30-8:15	Registration and Welcome
8:15-10:15	2012 Plumbing Code, Chapters 2-6
10:15-10:40	Break by NCPIA
10:40-12:40	2012 Plumbing Code, Chapters 7-11
12:40-2:00	Lunch (on your own)
2:00-4:00	Appendix C and C-1 and Question & Answer Time

### Website

The Plumbing Inspectors Association is proud to announce that we now have a website up and running. The address is [www.ncpia.us](http://www.ncpia.us). The website will provide updates so everyone can keep up with the latest news. Please check it out.

### Scholarship

The deadline for the Scholarship application and the Inspector of the Year application is May 1, 2012. There will be more information forthcoming of this and the applications will be on the website.

### Annual Meeting

The Plumbing Inspectors Association Annual Meeting will be held June 10-13, 2012 at the Sheraton at Atlantic Beach. More information will be forthcoming on this meeting.

### Officers

Just a reminder of the officers for the 2011-2012 year for the NCPA:

President Danny Teeters Guilford County	<b>DIRECTORS</b> One-Year Director Michael Crotts City of Morganton  Two Year Director Casey Gerringer Guilford County	Four-Year Director Stanley Dills Town of Calabash  EX-OFFICIO Steve Jones Polk County  NCPA Board Advisor Bill Moeller N. C. Dept of Insurance
President-Elect Wilson Sawyer NC Department of Insurance	Three-Year Director Clint Latham City of Winston-Salem	
Vice-President Jim Lawson City of High Point		

**NC PLUMBING INSPECTORS ASSOCIATION**  
**REGISTRATION FORM – NCPIA 2012 CODE WORKSHOPS**

Name (Same as your Certificate) \_\_\_\_\_

Employer \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone Number (    )              Fax Number (    )

Plumbing Certificate #: \_\_\_\_\_ Plumbing Contract License #: \_\_\_\_\_

LOCATION (PLEASE CHECK ONE)

\_\_\_\_\_ February 7, 2012 in Rocky Mount – Edgecombe Community College

\_\_\_\_\_ March 13, 2012 in Morganton – Western Piedmont Community College

\_\_\_\_\_ May 9, 2012 in High Point – City Hall

\_\_\_\_\_ June 10-13, 2012 in Atlantic Beach, Sheraton (Annual Meeting) Note: *A separate registration form will be mailed for the Annual Meeting with an updated price.*

\_\_\_\_\_ October 18, 2012 in Burlington – Paramount Theater

\_\_\_\_\_ # Persons attending @ \$60 each for Members      \$ \_\_\_\_\_

\_\_\_\_\_ # Persons attending @ \$70 each for Non-Members      \$ \_\_\_\_\_

**NC Plumbing Inspectors Association**

Attention: JEAN WILLIAMS

1202 Mail Service Center

Raleigh, NC 27699-1202

Tel: 919-661-5880 ext 260

Fax: 919-662-4414

Jean.Williams@ncdoi.gov

**DIRECTIONS TO EACH OF THE PLUMBING INSPECTORS WORKSHOPS**

**Rocky Mount Workshop – Edgecombe Community College:**

Hwy 64E by-pass to Rocky Mount, take exit 270 left onto Atlantic Avenue, go thru 3rd stop light. Edgecombe Community College on right, turn right into the parking lot and go around to other side of building to second parking lot. Auditorium will be on your right.

**Morganton Workshop – 2128 S. Sterling Street:**

From East: I-40 Exit 105, Turn right off ramp, approximately 1/2 mile on the left beside Zaxby's. From West: I-40 Exit 105, Turn right off ramp, under bridge approximately 1/2 mile on the left beside Zaxby's.

**High Point Workshop – City Hall:**

Bus. 85 at High Point, turn north on Bus. 311 (S. Main Street) turn right onto E. Russell Avenue, turn left onto S. Hamilton Street (211 S. Hamilton Street).

**Atlantic Beach, Sheraton – Annual Meeting:**

**Burlington Workshop – Paramount Theater (128 E. Front Street) Exit 145 off I-85/40**

Turn North on Maple Avenue. Go approx. 3 miles, turn right on Spring Street. Go 3 blocks to East Front Street (128 E. Front Street). Parking is behind the building or on the street.

# North Carolina Code Officials Qualification Board

## Quarterly Board Meeting

The quarterly meeting of the NC Code Officials Qualification Board was held at 1:00 PM on October 25, 2011 at 322 Chapanoke Road in Raleigh, NC. The next quarterly meeting is scheduled for January 24, 2012 at 1:00 PM. Also, the Education Committee will meet at 9:00 AM on January 24th, 2012 to discuss class cancellation rates. At 9:00 AM on January 25th, 2012, the Board will hold a hearing regarding the certifications of Mr. Wayne Strickland, Chief Inspector for the City of Southport. Any schedule changes as well as the agenda for each quarterly meeting can be found on our website at [www.ncdoi.com](http://www.ncdoi.com).

## Presentation of Fifth Standard Level III Certificates

There were no applicants who earned a fifth Standard Level III certificate over the last quarter. The number of individuals achieving this level of certification is currently 209.

## Suspensions

Please keep in mind that Board Rule 11 NCAC 08 .0709 states that: *"Any person who fails to renew a certificate for a period of two consecutive years shall take and pass the same examination as unlicensed applicants for that type and level of certificate before that person shall be allowed to renew the certificate"*

This means that if you are not using a certificate, you need to contact Qualifications Board staff to have that certificate placed in an "INACTIVE" status. Inactive certificates are not required to be renewed and so the rule listed above does not apply. Simply not earning CE credits and/or not paying renewal fees will result in the certificate being suspended. Continuing suspension longer than two years will result in the certificate being REVOKED, in accordance with the above rule.

**Do not let this happen to you!** Make sure that the Qualifications Board records accurately reflect the status of your certificates.

## 2012 Code Testing and Standard Course Updates

The mandatory effective dates of the 2012 Codes were changed at a December 12th meeting of the Building Code Council. As you can see from the dates, included elsewhere in this newsletter, the implementation will be staggered. The effect of this on the test updates to 2012 Code will be finalized by the Qualifications Board at their next meeting on January 24th. The standard courses will be updated based on the schedule for test updates.

Qualifications Board staff will send email notices to all Directors of Inspections to clarify the updates just as soon as they are determined. If you are a Director of Inspections, please forward this notice to your staff as quickly as possible.

We will also send an email blast to those of you who have subscribed to the Engineering Division newsletter, so watch your mailbox. (Sign up instructions for the newsletter are repeated below.)

In the meantime, and as always, please read and check the testing documentation sent to you, as it contains important information.

## Keeping Up With Codes

The Engineering Division produces a free e-newsletter you might be interested in. The articles pertain to code interpretations, research on construction methods and materials, status updates on code changes, news from the Q-Board, etc.

To subscribe go to [http://www.ncdoi.com/OSFM/Engineering/engineering\\_home.asp](http://www.ncdoi.com/OSFM/Engineering/engineering_home.asp) and click on the red box on the right that says "Sign up for Email Updates".

## Website Email Registration

Please visit the Q-Board home page at [http://www.ncdoi.com/OSFM/Engineering/COQB/engineering\\_coqb\\_home.asp](http://www.ncdoi.com/OSFM/Engineering/COQB/engineering_coqb_home.asp) to register your email address. Look for the little green box on the top right. Our goal is to be better able to communicate important information regarding certifications directly to each individual inspector via email. For that reason, please enter whatever email address that is the best way to reach you individually: do not enter a group address that is used by multiple people, do not enter an address that changes frequently, do not enter an address that you do not check regularly.

If you have any questions, please contact staff

## Certificate Issuance

Please keep in mind that certificates are issued by the Board once a quarter. If you need a certificate to be issued during a certain quarter, you must successfully complete an exam at least 2 weeks prior to the Board meeting, including any challenges that you might wish to make. In order to receive a certificate this quarter, you will need to take and pass your exam by January 10th.

## Standard Code Course Instructor Training Workshop

The next workshop for standard code course instructors will be held at the OSFM offices in Raleigh on January 19, 2012, from 8:00 AM to 4:30 PM. If you would like to attend, please register with Celestine Phill. Click on the following link for more information: <http://www.ncdoi.com/OSFM/Engineering/COQB/Documents/Courselnfo.pdf>

## Continuing Education

### CE Sponsor and Coordinator Workshop

The next workshop for CE sponsors and coordinators will take place at the OSFM offices in Raleigh on January 26, 2012, from 8:00 AM to 4:00 PM. If you would like to attend, please register with Celestine Phill by January 20th. Click on the following link for more information: <http://www.ncdoi.com/OSFM/Engineering/COQB/Documents/CESponsorandCoordinatorWorkshopInformation.pdf>

### Continuing Education Course Schedule

Please visit [http://www.ncdoi.com/OSFM/Engineering/COQB/engineering\\_coqb\\_CE\\_Class\\_Listing.asp](http://www.ncdoi.com/OSFM/Engineering/COQB/engineering_coqb_CE_Class_Listing.asp) to view a listing of currently scheduled continuing education courses. This tool allows course sponsors to advertise courses approved by the Board to CEOs across the state. Since the tools implementation, the listing of course offerings continues to grow thus making it easier for inspectors to find courses that are new, varied, and also pertinent to their partic-

ular jurisdiction as they seek to fulfill their continuing education requirements each year. Courses are sortable by technical area.

Please keep in mind that courses may still require advance registration and may be limited in size based on available space or instructor requirements. Contact information is provided with each listing so that you may inquire about attending, well in advance of the class date.

As you attend courses that you find valuable, please encourage the course instructor and/or sponsor to include future offerings at the website so that your fellow inspectors can benefit from the information as well.

### Continuing Education Report

A Continuing Education Report is available online at [www.ncdoi.com](http://www.ncdoi.com) which shows each individual with an active standard or limited certificate and the number of hours of continuing education completed over the last 3 years, the current year, and any carryover hours available for renewal year 2011. If you see any irregularities in this report, please notify staff immediately to prevent the possibility of suspension at the end of the renewal year over an error.

Errors result when incorrect information is submitted to document your participation in a course. It is imperative that you provide the course instructor with your correct Standard or Limited Certificate number and full, complete name. Providing your ID number or wrong certificate number (a plumbing certificate number for a building course, for example) will result in you not receiving proper credit for a course. Providing an incomplete name (i.e. providing a nickname or

using your middle name) can also create confusion during reporting.

Please make sure your CE Instructor or Coordinator provides a Certificate of Completion for each continuing education course you complete. This is your only proof of attendance and may be the only way to document course credit if there is a discrepancy on the Continuing Education Report. The CE Instructor or Coordinator is required to provide this documentation. If you are having difficulty obtaining this information or if you have any questions concerning the continuing education program or the application of continuing education credit hours, please contact the staff if at 919-661-5880.

### Staff and E-mail Addresses

E-mail addresses for the Board's staff are as follows:

**Samantha Ewens, PE, Director**

[Samantha.Ewens@ncdoi.gov](mailto:Samantha.Ewens@ncdoi.gov)

**Kathy Williams, Qualifications Service Supervisor**

[Kathy.Williams@ncdoi.gov](mailto:Kathy.Williams@ncdoi.gov)

**Sarah van Doornewaard, Administrative Asst.**

[Sarah.VanDoornewaard@ncdoi.gov](mailto:Sarah.VanDoornewaard@ncdoi.gov)

**Suzanne Taylor, Certification Engineer and Investigator**

[Suzanne.Taylor@ncdoi.gov](mailto:Suzanne.Taylor@ncdoi.gov)

**Celestine Phill, Education Coordinator**

[Celestine.Phill@ncdoi.gov](mailto:Celestine.Phill@ncdoi.gov)

## Current Standard Inspection Courses – January 1, 2012

Area	Lev	Begin	End	Days	Time	College Name
Building	I	1/8/2012	1/22/2012	Sat - Sun	8:00 - 5:00	Coastal Carolina CC
Building	I	1/20/2012	1/29/2012	Fri - Sun	6-10; 8-8; 8-6	Fayetteville Tech CC
Building	I	2/1/2012	4/4/2012	Mon, Wed	6:30 - 9:30	Wake Tech CC
Building	I	2/3/2012	2/12/2012	Fri - Sun	8:00 - 5:00	Asheville-Buncombe CC
Building	I	2/24/2012	3/4/2012	Fri - Sun	8:00 - 5:00	Wilkes CC
Building	I	3/2/2012	3/11/2012	Fri - Sun	8:00 - 5:00	Davidson CC
Building	I	4/13/2012	4/22/2012	Fri - Sun	8:00 - 5:00	Central Piedmont CC
Building	I	5/21/2012	8/1/2012	Mon, Wed	6:30 - 9:30	Wake Tech CC
Building	I	6/8/2012	6/17/2012	Fri - Sun	8:00 - 5:00	Asheville-Buncombe CC
Building	I	6/15/2012	6/24/2012	Fri - Sun	8:00 - 5:00	Davidson CC
Building	I	9/7/2012	9/16/2012	Fri - Sun	8:00 - 5:00	Davidson CC
Building	I	9/7/2012	9/16/2012	Fri - Sun	8:00 - 5:00	Wilkes CC
Building	I	9/10/2012	11/14/2012	Mon, Wed	6:30 - 9:30	Wake Tech CC
Building	I	9/14/2012	9/23/2012	Fri - Sun	8:00 - 5:00	Asheville-Buncombe CC
Building	I	10/20/2012	11/4/2012	Sat - Sun	8:00 - 5:00	Coastal Carolina CC
Building	I	12/7/2012	12/16/2012	Fri - Sun	8:00 - 5:00	Davidson CC
Building	II	1/6/2012	1/15/2012	Fri - Sun	8:00 - 5:00	Wilkes CC
Building	II	1/13/2012	1/22/2012	Fri - Sun	8:00 - 5:00	Davidson CC
Building	II	1/14/2012	1/22/2012	Sat - Sun	8:00 - 6:00	Craven CC
Building	II	2/10/2012	2/19/2012	Fri - Sun	5:30 - 9:30; 8 - 5	Coastal Carolina CC
Building	II	2/10/2012	2/18/2012	Fri - Sun	8:00 - 5:00	Wake Tech CC
Building	II	3/2/2012	3/11/2012	Fri - Sun	6-10; 8-5	Fayetteville Tech CC
Building	II	3/16/2012	3/25/2012	Fri - Sun	8:00 - 5:00	Asheville-Buncombe CC
Building	II	4/13/2012	4/22/2012	Fri - Sun	8:00 - 5:00	Davidson CC
Building	II	6/1/2012	6/10/2012	Fri - Sun	8:00 - 5:00	Wilkes CC
Building	II	9/7/2012	9/16/2012	Fri - Sun	8:00 - 5:00	Wake Tech CC
Building	II	10/5/2012	10/14/2012	Fri - Sun	8:00 - 5:00	Davidson CC
Building	II	11/30/2012	12/9/2012	Fri - Sun	8:00 - 5:00	Wilkes CC
Building	III	2/3/2012	2/12/2012	Fri - Sun	8:00 - 5:00	Davidson CC
Building	III	4/13/2012	4/22/2012	Fri - Sun	8:00 - 5:00	Central Piedmont CC
Building	III	4/13/2012	4/22/2012	Fri - Sun	6-10; 8-5	Fayetteville Tech CC
Building	III	4/13/2012	4/22/2012	Fri - Sun	8:00 - 5:00	Wilkes CC

## Current Standard Inspection Courses – January 1, 2012

Area	Lev	Begin	End	Days	Time	College Name
Building	III	5/11/2012	5/20/2012	Fri - Sun	8:00 - 5:00	Asheville-Buncombe CC
Building	III	5/11/2012	5/20/2012	Fri - Sun	8:00 - 5:00	Davidson CC
Building	III	5/25/2012	6/3/2012	Fri - Sun	8:00 - 5:00	Wake Tech CC
Building	III	6/1/2012	6/10/2012	Fri - Sun	5:30 - 9:30; 8 - 5	Coastal Carolina CC
Building	III	8/3/2012	8/12/2012	Fri - Sun	8:00 - 5:00	Davidson CC
Building	III	10/19/2012	10/28/2012	Fri - Sun	8:00 - 5:00	Wilkes CC
Building	III	11/2/2012	11/11/2012	Fri - Sun	8:00 - 5:00	Asheville-Buncombe CC
Building	III	11/9/2012	11/18/2012	Fri - Sun	8:00 - 5:00	Davidson CC
Electrical	I	1/12/2012	1/20/2012	Thu - Sat	8:00 - 5:00	Wilkes CC
Electrical	I	1/13/2012	1/22/2012	Fri - Sun	6-10; 8-5	Fayetteville Tech CC
Electrical	I	3/9/2012	3/18/2012	Fri - Sun	8:00 - 5:00	Randolph CC
Electrical	I	3/23/2012	4/1/2012	Fri - Sun	8:00 - 5:00; 8-12	Central Piedmont CC
Electrical	I	5/10/2012	5/18/2012	Thu - Sat	8:00 - 5:00	Wilkes CC
Electrical	I	6/8/2012	6/17/2012	Fri - Sun	8:00 - 5:00	Randolph CC
Electrical	I	9/13/2012	9/21/2012	Thu - Sat	8:00 - 5:00	Wilkes CC
Electrical	I	9/14/2012	9/23/2012	Fri - Sun	8:00 - 5:00	Randolph CC
Electrical	I	11/30/2012	12/9/2012	Fri - Sun	5:30 - 9:30; 8 - 5	Coastal Carolina CC
Electrical	II	1/20/2012	1/28/2012	Fri - Sat	8:00 - 5:00	Randolph CC
Electrical	II	2/9/2012	2/17/2012	Thu - Fri	8:00 - 5:00	Wilkes CC
Electrical	II	2/18/2012	2/26/2012	Sat - Sun	8:00 - 4:30	Fayetteville Tech CC
Electrical	II	3/3/2012	3/11/2012	Sat - Sun	8:00 - 4:30	Coastal Carolina CC
Electrical	II	4/13/2012	4/21/2012	Fri - Sat	8:00 - 5:00	Randolph CC
Electrical	II	6/8/2012	6/16/2012	Fri - Sat	8:00 - 5:00	Wilkes CC
Electrical	II	7/20/2012	7/28/2012	Fri - Sat	8:00 - 5:00	Randolph CC
Electrical	II	10/4/2012	10/12/2012	Thu - Fri	8:00 - 5:00	Wilkes CC
Electrical	II	10/5/2012	10/13/2012	Fri - Sat	8:00 - 5:00	Randolph CC
Electrical	III	2/13/2012	2/16/2012	Mon - Thu	8:00 - 5:00	Asheville-Buncombe CC
Electrical	III	2/17/2012	2/25/2012	Fri - Sat	8:00 - 5:00	Randolph CC
Electrical	III	3/10/2012	3/18/2012	Sat - Sun	8:00 - 4:30	Fayetteville Tech CC
Electrical	III	3/15/2012	3/23/2012	Thu - Fri	8:00 - 5:00	Wilkes CC
Electrical	III	4/13/2012	4/21/2012	Fri - Sun	8:00 - 5:00	Central Piedmont CC
Electrical	III	5/11/2012	5/19/2014	Fri - Sat	8:00 - 5:00	Randolph CC
Electrical	III	7/12/2012	7/20/2012	Thu - Fri	8:00 - 5:00	Wilkes CC
Electrical	III	7/14/2012	7/22/2012	Sat - Sun	8:30 - 4:30	Coastal Carolina CC
Electrical	III	8/17/2012	8/25/2012	Fri - Sat	8:00 - 5:00	Randolph CC
Electrical	III	11/1/2012	11/9/2012	Thu - Fri	8:00 - 5:00	Wilkes CC
Electrical	III	11/2/2012	11/10/2012	Fri - Sun	8:00 - 5:00	Randolph CC
Fire Prevention	I	1/7/2012	1/15/2012	Sat - Sun	8:00 - 5:00	Mitchell CC
Fire Prevention	I	2/3/2012	2/12/2012	Fri - Sun	6-10; 8-5	Fayetteville Tech CC
Fire Prevention	I	2/18/2012	2/26/2012	Fri - Sat	8:00 - 5:00	Wayne CC
Fire Prevention	I	3/2/2012	3/17/2012	Fri - Sat	8:00 - 6:00	Davidson CC
Fire Prevention	I	3/10/2012	3/18/2012	Sat - Sun	8:00 - 6:00	Cleveland CC
Fire Prevention	I	4/12/2012	4/21/2012	Thu - Sat	8:00 - 5:00	Wilkes CC
Fire Prevention	I	9/22/2012	9/30/2012	Sat - Sun	8:00 - 6:00	Cleveland CC
Fire Prevention	II	1/6/2012	1/14/2012	Fri - Sat	8:00 - 5:00	Davidson CC
Fire Prevention	II	2/10/2012	2/18/2012	Fri - Sat	8:00 - 5:00	Wilkes CC
Fire Prevention	II	3/3/2012	3/11/2012	Sat - Sun	8:00 - 6:00	Fayetteville Tech CC
Fire Prevention	II	3/5/2012	3/8/2012	Mon - Thu	8:00 - 5:00	Asheville-Buncombe CC
Fire Prevention	II	4/21/2012	4/29/2012	Sat - Sun	8:00 - 5:00	Wayne CC
Fire Prevention	II	5/5/2012	5/13/2012	Sat - Sun	8:00 - 5:00	Coastal Carolina CC
Fire Prevention	II	7/14/2012	7/22/2012	Sat - Sun	8:00 - 5:00	Cleveland CC
Fire Prevention	III	3/8/2012	3/10/2012	Thu - Sat	8:00 - 5:00	Wilkes CC
Fire Prevention	III	3/30/2012	4/1/2012	Fri - Sun	8:00 - 5:00	Fayetteville Tech CC
Fire Prevention	III	4/6/2012	4/8/2012	Fri - Sun	8:00 - 5:00	Cleveland CC
Fire Prevention	III	7/19/2012	7/21/2012	Thu - Sat	8:00 - 5:00	Wilkes CC
Fire Prevention	III	9/14/2012	9/16/2012	Fri - Sun	5 - 10; 730 - 6	Coastal Carolina CC
Fire Prevention	III	10/19/2012	10/21/2012	Fri - Sun	8:00 - 5:00	Cleveland CC
Law and Administration		1/28/2012	1/29/2012	Sat - Sun	8:30 - 5:00	Davidson CC
Law and Administration		3/3/2012	3/4/2012	Sat - Sun	8:00 - 5:00	Wilkes CC
Law and Administration		3/3/2012	3/4/2012	Sat - Sun	8:00 - 5:00	Wilkes CC
Law and Administration		3/16/2012	3/17/2012	Fri - Sat	8:00 - 5:00; 8-4	Central Piedmont CC
Law and Administration		3/16/2012	3/18/2012	Fri - Sun		McDowell Tech CC
Law and Administration		4/14/2012	4/15/2012	Sat - Sun	8:30 - 5:00	Davidson CC
Law and Administration		7/14/2012	7/15/2012	Sat - Sun	8:00 - 5:00	Wilkes CC
Law and Administration		8/11/2012	8/12/2012	Sat - Sun	8:30 - 5:00	Davidson CC
Law and Administration		11/3/2012	11/4/2012	Sat - Sun	8:30 - 5:00	Davidson CC
Law and Administration		11/3/2012	11/4/2012	Sat - Sun	8:00 - 5:00	Wilkes CC
Law and Administration		11/3/2012	11/4/2012	Sat - Sun	8:00 - 5:00	Wilkes CC
Mechanical	I	1/12/2012	1/15/2012	Thu - Fri	8:00 - 5:00	Wilkes CC
Mechanical	I	2/4/2012	2/12/2012	Sat - Sun	8:00 - 5:00	Fayetteville Tech CC
Mechanical	I	3/3/2012	3/10/2012	Sat - Sun	8:00 - 5:00	Asheville-Buncombe CC
Mechanical	I	3/3/2012	3/11/2012	Sat - Sun	8:00 - 5:00	Wake Tech CC
Mechanical	I	4/7/2012	4/15/2012	Sat - Sun	8:00 - 5:00	Davidson CC

## Current Standard Inspection Courses – January 1, 2012

Area	Lev	Begin	End	Days	Time	College Name
Mechanical	I	4/14/2012	4/22/2012	Sat - Sun	8:00 - 5:00	Central Piedmont CC
Mechanical	I	6/9/2012	6/17/2012	Sat - Sun	8:00 - 5:00	Wake Tech CC
Mechanical	I	7/26/2012	7/29/2012	Thu - Sun	8:00 - 5:00	Wilkes CC
Mechanical	I	9/22/2012	9/30/2012	Sat - Sun	8:00 - 5:00	Wake Tech CC
Mechanical	I	10/6/2012	10/14/2012	Sat - Sun	8:00 - 5:00	Davidson CC
Mechanical	II	3/16/2012	3/18/2012	Fri - Sun	8:00 - 5:00	Fayetteville Tech CC
Mechanical	II	3/23/2012	3/25/2012	Fri - Sun	5 - 10; 7:30 - 6	Coastal Carolina CC
Mechanical	II	3/23/2012	3/25/2012	Fri - Sun	8:00 - 5:00	Wake Tech CC
Mechanical	II	3/23/2012	3/25/2012	Fri - Sun	8:00 - 5:00	Wilkes CC
Mechanical	II	6/22/2012	6/24/2012	Fri - Sun	8:00 - 5:00	Wake Tech CC
Mechanical	II	10/5/2012	10/7/2012	Fri - Sun	8:00 - 5:00	Wake Tech CC
Mechanical	III	1/28/2012	1/29/2012	Sat - Sun	8:00 - 5:00	Wilkes CC
Mechanical	III	2/25/2012	2/26/2012	Sat - Sun	8:00 - 5:00	Davidson CC
Mechanical	III	3/1/2012	4/24/2012	Tues/Thurs	7:30am -9:30am	Cape Fear CC
Mechanical	III	3/31/2012	3/31/2012	Sat - Sun	8:00 - 5:00	Wake Tech CC
Mechanical	III	4/14/2012	4/15/2012	Sat - Sun	8:00 - 5:00	Central Piedmont CC
Mechanical	III	4/28/2012	4/29/2012	Sat - Sun	8:00 - 5:00	Fayetteville Tech CC
Mechanical	III	5/5/2012	5/6/2012	Sat - Sun	8:00 - 5:00	Wilkes CC
Mechanical	III	7/14/2012	7/15/2012	Sat - Sun	8:00 - 5:00	Wake Tech CC
Mechanical	III	7/14/2012	7/15/2012	Sat - Sun	8:00 - 5:00	Wilkes CC
Mechanical	III	8/4/2012	8/5/2012	Sat - Sun	8:00 - 5:00	Coastal Carolina CC
Mechanical	III	8/25/2012	8/26/2012	Sat - Sun	8:00 - 5:00	Davidson CC
Mechanical	III	10/13/2012	10/14/2012	Sat - Sun	8:00 - 5:00	Wake Tech CC
Plumbing	I	2/10/2012	2/18/2012	Fri - Sat	8:00 - 5:00	Davidson CC
Plumbing	I	2/18/2012	2/26/2012	Sat - Sun	8:00 - 5:00	Fayetteville Tech CC
Plumbing	I	3/17/2012	3/25/2012	Sat - Sun	8:00 - 5:00	Central Piedmont CC
Plumbing	I	4/12/2012	4/15/2012	Thu - Fri	8:00 - 5:00	Wilkes CC
Plumbing	I	4/14/2012	4/22/2012	Sat - Sun	8:00 - 5:00	Wake Tech CC
Plumbing	I	5/4/2012	5/12/2012	Fri - Sat	8:00 - 5:00	Davidson CC
Plumbing	I	7/21/2012	7/29/2012	Sat - Sun	8:00 - 5:00	Wake Tech CC
Plumbing	I	8/17/2012	8/24/2012	Fri - Sat	8:00 - 5:00	Davidson CC
Plumbing	I	10/20/2012	10/28/2012	Sat - Sun	8:00 - 5:00	Wake Tech CC
Plumbing	II	2/10/2012	2/12/2012	Fri - Sun	8:00 - 5:00	Wilkes CC
Plumbing	II	3/8/2012	3/10/2012	Fri - Sun	8:00 - 5:00	Davidson CC
Plumbing	II	3/23/2012	3/25/2012	Fri - Sun	8:00 - 5:00	Fayetteville Tech CC
Plumbing	II	4/20/2012	4/22/2012	Fri - Sun	5 - 10; 7:30 - 6	Coastal Carolina CC
Plumbing	II	4/27/2012	4/29/2012	Fri - Sun	8:00 - 5:00	Wake Tech CC
Plumbing	II	6/22/2012	6/24/2012	Fri - Sun	8:00 - 5:00	Wilkes CC
Plumbing	II	7/19/2012	7/21/2012	Fri Sun	8:00 - 5:00	Davidson CC
Plumbing	II	11/1/2012	11/3/2012	Fri - Sun	8:00 - 5:00	Wake Tech CC
Plumbing	III	1/7/2012	1/8/2012	Sat - Sun	8:00 - 5:00	Fayetteville Tech CC
Plumbing	III	1/21/2012	1/22/2012	Sat - Sun	8:00 - 5:00	Wilkes CC
Plumbing	III	3/3/2012	3/4/2012	Sat - Sun	8:00 - 5:00	Central Piedmont CC
Plumbing	III	3/10/2012	3/11/2012	Sat - Sun	8:00 - 5:00	Wilkes CC
Plumbing	III	4/27/2012	4/28/2012	Fri - Sat	8:00 - 5:00	Davidson CC
Plumbing	III	5/5/2012	5/6/2012	Sat - Sun	8:00 - 5:00	Wake Tech CC
Plumbing	III	6/29/2012	6/30/2012	Fri - Sat	8:00 - 5:00	Davidson CC
Plumbing	III	7/21/2012	7/22/2012	Sat - Sun	8:00 - 5:00	Wilkes CC
Plumbing	III	8/25/2012	8/26/2012	Sat - Sun	8:00 - 5:00	Coastal Carolina CC
Plumbing	III	9/7/2012	9/8/2012	Fri - Sat	8:00 - 5:00	Davidson CC
Plumbing	III	11/10/2012	11/11/2012	Sat - Sun	8:00 - 5:00	Wake Tech CC

**Course listings are updated often during the year. Call the college for the most current courses.**

Because of the accelerated nature and the concentrated time frame in which the Standard Code courses are offered, students should be aware that the Standard Code courses are not elementary and will require intense study to successfully complete the classes. Those enrolled need to be thoroughly familiar with the codes. Therefore, it is recommended that students purchase their copies of the codes well in advance of the class and assemble them. It is also recommended that students read the code books to determine their knowledge of the material. Students need to be familiar with the code, prior to taking the course.

### MINIMUM REQUIRED COURSE HOURS

Course	Hours	Course	Hours
Law and Admin	15	Mechanical Level I	32
Building Level I	48	Mechanical Level II	24
Building Level II	40	Mechanical Level III	16
Building Level III	40	Plumbing Level I	32
Electrical Level I	40	Plumbing Level II	24
Electrical Level II	30	Plumbing Level III	16
Electrical Level III	30		
Fire Preven Level I	36		
Fire Preven Level II	32		
Fire Preven Level III	24		

## NC CODE OFFICIALS QUALIFICATION BOARD

Code	Effective Date	Mandatory Enforcement Date	Notes
Building	Sep 1 2011	Jun 1 2012	
Residential	Jan 1 2012	March 1 2012	SL2011-269
Mechanical	Sep 1 2011	Jun 1 2012	
Plumbing	Sep 1 2011	Jun 1 2012	
Fuel Gas	Sep 1 2011	Jun 1 2012	
Fire Prevention	Sep 1 2011	Jun 1 2012	
Energy Conservation	Jan 1 2012	March 1 2012	SL2011-269
Law and Administration	Jan 1 2012	Jun 1 2012	
Electrical	N/A	N/A	Held at Legislature

### List of Community Colleges and Technical Institutes Teaching Standard Inspection Certificate Courses

Community College	Location	Primary Contact	Secondary Contact	Telephone
Alamance CC	Graham	David Parker	John Moyers	336-578-2002
Asheville-Bun. Tech CC	Asheville	Nancy Troxler, X5824	Skye Myrick X5836	828-254-1921
Asheville-Bun. Tech CC	Asheville	John Witherspoon, X 844		828-254-1921
Beaufort County CC		David Crosby		252 940-6262
Blue Ridge CC	Hendersonville	Elaine Handville		828-694-1779
Brunswick CC	Supply	John Winders		910-279-0478
Caldwell CC	Hudson	Norm Staines		828-726-2200
Cape Fear CC	Wilmington	Teresa Criser		910-362-7319
Cape Fear CC (B)	Burgaw	Pam Britt		910-675-1439
Carteret CC	Morehead City	Robert Espenship		252-222-6201
Catawba Valley CC	Hickory	Susan Killian		828-327-7000
Central Carolina CC	Sanford	Teronda McNiel	Landis Phillips	919-718-7291
Central Carolina CC	Sanford	Joey Shue		919-776-5601
Central Piedmont CC	Charlotte	Steve Corriher		704-330-4421
Central Piedmont CC	Charlotte	Shelia Tzerman		704-330-4408
Central Piedmont CC	Charlotte	Harley Cook (Fire Courses at CPCC)		704-330-4631
Cleveland CC	Shelby	Jimmy Hensley		704-484-4058
Coastal Carolina CC	Jacksonville	Steve Forney		910-938-6228
College of the Albemarle	Elizabeth City	Carol Schenck, X2518		252-335-0821
College of the Albemarle	Dare Co.	Tim Shearin, X240		252-473-2264
Craven CC	New Bern	George Kramer		252-638-7289
Davidson County CC	Lexington	Teresa Kines	Madelyn Gentry	336-751-2885
Durham Technical CC	Durham	Timiya McCormick		919-536-7240
Fayetteville Technical CC	Fayetteville	Sherry Turpin	Jane Pfeffer	910-678-8227
Forsyth Technical CC	Winston-Salem	Wesley Hutchins, X7769	Robert Leslie	336-723-0371
Guilford Technical CC	Jamestown	Bob Plain, X2586	June Boswell, X2821	336-334-4822
Gaston CC	Gastonia	Beth Hollars	Marty Farmer	704-922-6250
Halifax CC	Weldon	Kevin Kupietz	Sandra Hammack	252-533-8416
Haywood CC	Clyde	Terry Taylor		828-627-4617
Isothermal CC	Spindale	Debbie Hollifield, X 345		828-286-3636
Johnston CC	Smithfield	Starr Beal		919-209-2081
Lenoir CC	Kinston	Phoebe Emory X 713	Sarah Lane X 722	252-527-622
Mitchell CC	Statesville	Gordon Knight		704-978-5446
Nash CC	Rocky Mount	Shannon Orndorff		252-451-8312
Piedmont CC	Roxboro	Phyllis Gentry		336-599-1181
Pitt CC	Greenville	Gail Nichols		252 493-7625
Richmond CC	Hamlet	Pam McKay		910-410-1704
Randolph CC	Asheboro	Lewis Edwards		336-633-0217
Robeson CC	Lumberton	Johnny Baker, X21	Tammi Bozeman, X22	910-738-7128
Rockingham CC	Wentworth	Randy Evans, X2390		336-342-4261
Rowan-Cabarrus CC	Salisbury	Roger McDaniel, X3501	Jeanie Moore	704-788-3197
Sandhills CC	Pinehurst	Lynn Beith		910-695-3939
Southeastern CC	Whiteville	David Ranson X314	Annette Dorman	910-642-7141
Southwestern CC	Sylva	Scott Sutton	Susan McCaskill	828-586-4091
Surry CC	Dobson	Greg Smith		336-386-3331
Tri-County CC	Murphy	Ed Smith	Lisa Thompson	828-837-6810
Vance-Granville CC	Henderson	Curtis Tyndall		252-738-3273
Wake Technical CC	Raleigh	Abo Abazid		919-866-5828
Wayne CC	Goldsboro	Carlos Cotto, X219		919-735-5152
Wilkes CC	Wilkesboro	Calvin Dull	Abby Combs	336-838-6208
Wilson Technical CC	Wilson	Robert Holsten		252-291-1195

NOTE: Pre-registration is required at least ten days prior to the beginning date of each course. Each community college may increase the cost of the course depending upon the number of students that have pre-registered. In the event of a cost increase, the community college will notify all students that have pre-registered.

#### TEXTBOOKS

**Building, Level I:** 2009 Building, Residential Codes and 2004  
Manufactured Buildings/Mobile Home Regulations  
**Building, Level II and III:** 2009 Building Code  
**Electrical:** 2008 Electrical Code

**Fire Prevention:** 2009 Fire Prevention Code  
**Mechanical:** 2009 Mechanical and Fuel Gas Code  
**Plumbing:** 2009 Plumbing Code  
**Law and Admin:** 2009 Administrative Code and Policies, Board Rules  
To purchase Codes and Board Rules, contact Publications: 919-661-5880.



## News from the NC Fire Marshal's Association

**T**he NC Fire Marshal's Association held its fourth quarter meeting on November 9, 2011 at City of Concord, NC Fire Station

No. 9.

At this meeting the association elected officers and three new members to the Board of Directors for 2012-2013. The incoming officers and directors are:

**President** – Mark Brown, City of Concord

**1st Vice President** – Jerry Coble, Guilford Co.

**2nd Vice President** – Chris Perry, Johnston County

**Secretary** – Richard Strickland, OSFM

**Treasurer** – Ronnie Marsh, Town of Boone

### Directors

Scott Rogers (2013) – Nash County

Craig Zglinski (2013) – Durham County

Dale Coffey (2013) – City of Newton

Chris Noles – 12 – OSFM

Bill Rogers – 12 – Lee County

Gary Styers – 12 – City of Mooresville

The NCFMA conducted its fall continuing education workshops with classes being held in Conover, Durham and Rocky Mount in

November and December. The one day workshops offered 6 hours of continuing education credit and were taught by Richard Strickland with OSFM. The workshops were a tremendous success with a combined attendance of 193.

The next meeting of the NCFMA will be February 8, 2012 at the Greenville Hilton, 207 W. Greenville Blvd., Greenville, NC. This meeting will begin at 12:00 Noon and is in conjunction with the NC Fire and Life Safety Educator's Conference.

The 2nd Quarter meeting will be April 16, 2012 at the Winter Park Baptist Church, 4700 Wrightsville Ave., Wilmington, NC. This meeting will begin at 1:00 P.M. and will be in conjunction with the NC Fire Prevention School. A free two hour continuing education class will be offered to members not attending Fire Prevention School.

The 3rd Quarter meeting will be in August at the Raleigh Convention Center in conjunction with the NC South Atlantic Fire Expo. The date and meeting time TBA.

The 4th Quarter meeting will be held in Guilford County at the Guilford County Emergency Services Office in November. The date and meeting time TBA.

For more NCFMA news, please visit our web site at [NCFMA.com](http://NCFMA.com).

*–Submitted by Richard Strickland, Secretary*



## News from the Mechanical Inspectors Association

### 2012 Mechanical Workshops

The Changes in the 2012 Fuel Gas Code, the Mechanical Provisions of the 2012 Energy Code, & DOI Interpretations as Applied to the

2012 Mechanical & Fuel Gas Codes

A six hour workshop highlighting and explaining these changes will be held at five different locations throughout the State.

Monroe – February 15, 2012

Morganton – March 14, 2012

Wilson – April 25, 2012

Jacksonville – May 16, 2012

Burlington – June 27, 2012

**Registration: 7:30 – 8:00 am**

**Workshop: 8:00 am to 3:00 pm (one hour lunch break)**

The Officers and Directors of the North Carolina Mechanical Inspectors Association are pleased to announce that workshops will be conducted this year to address the changes/topics listed above.

Attendance at any one of these workshops will provide six hours of continuing education credit for the North Carolina Mechanical Code Inspector certificate as required by the North Carolina Code Officials Qualification Board.

### New This Year:

This course has been approved by the North Carolina State Board of Examiners of Plumbing, Heating & Fire Sprinkler Contractors for continuing education credit toward license renewal in the amount of six (6) hours. This course is not sponsored by the Board.

For a registration application, contact Ms. Jean Williams at 919-661-5880 ext. 260, or visit our Web site at: <http://www.ncmia.com>.

**NC MECHANICAL INSPECTORS ASSOCIATION  
2012 WORKSHOPS**

**REGISTRATION FORM**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Employer: \_\_\_\_\_

PHONE NUMBER: (\_\_\_\_) \_\_\_\_\_ E-MAIL: (Required) \_\_\_\_\_

MECHANICAL CERTIFICATE #: \_\_\_\_\_ ID #: \_\_\_\_\_

(Note: Your mechanical certificate number must be provided to receive continuing education credit.)

MECHANICAL CONTRACTOR LICENSE #: \_\_\_\_\_

(Note: Your contractor license number must be provided to receive continuing education credit.)

**LOCATION AND DATE (PLEASE CHECK ONE)**

\_\_\_\_\_ MONROE February 15, 2012 (Wednesday)  
Location: Old Armory Community Center – 500 South Johnson Street, Monroe

\_\_\_\_\_ MORGANTON March 14, 2012 (Wednesday)  
Location: Western Piedmont Community College, Morganton  
Foothills Higher Education Center, Room 163, 2128 South Sterling Street  
Directions: Exit 105 off I-40, turn right onto NC 18. The Center is 0.3 miles on the left.

\_\_\_\_\_ WILSON APRIL 25, 2012 (Wednesday)  
Location: City of Wilson Operations Center, 1800 Herring Avenue (Hwy. 42 East) Wilson  
Directions: 1/4 mile East on Hwy. 42 from the intersection of Hwy. 301. Building will be on the left. Turn left into the parking lot at the first stoplight and keep to the left. Park in the parking lot.

\_\_\_\_\_ JACKSONVILLE MAY 16, 2012 (Wednesday)  
Location: Agriculture Extension Agents, 4024 Richlands Hwy. (Hwy. 258), Jacksonville  
Directions: Hwy. 258 immediately Northwest of Jacksonville

\_\_\_\_\_ BURLINGTON JUNE 27, 2012 (Wednesday)  
Location: Paramount Theatre, 128 E. Front Street, Burlington  
Directions: Exit 145 off I-85/40, Turn North on Maple Avenue. Go approx. 3 miles, turn right on Spring Street. Go 3 blocks to East Front Street (128 East Front Street). Parking is behind the building or on the street.

\_\_\_\_\_ Members @ \$60.00 each - Note: Jurisdiction must be current in NCMIA dues payments to qualify for this rate. This rate also applies to Associate Members current in NCMIA dues payments.

\_\_\_\_\_ persons @ \$100 each - Note: Inspectors attending workshops from jurisdictions delinquent in paying Association membership dues shall be required to pay the non-member registration rate.

AMOUNT ENCLOSED: \$ \_\_\_\_\_

**PLEASE MAKE CHECKS PAYABLE AND RETURN TO:**

NC MECHANICAL INSPECTORS ASSOCIATION  
ATTENTION: JEAN WILLIAMS  
1202 MAIL SERVICE CENTER  
RALEIGH, NORTH CAROLINA 27699-1202

# NC MECHANICAL INSPECTORS ASSOCIATION ANNUAL WORKSHOPS

## AGENDA

7:30 – 8:00 a.m.	Registration
8:00 – 9:50 a.m.	Changes in the 2012 North Carolina Fuel Gas Code
9:30 – 10:00 a.m.	Break
10:00 – 11:50 a.m.	Mechanical Provisions of the 2012 NC Energy Conservation Code
11:50 a.m. – 1:00 p.m.	Lunch
1:00 – 3:00 p.m.	Department of Insurance Interpretations as they apply to the 2012 North Carolina Mechanical and Fuel Gas Codes