



MONTHLY

News and Views from the Connecticut Association of Home Inspectors, Inc.

November 2006

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Meeting Dates

- Nov 15** *Gas and oil burner technologies and controls* – Carlin Combustion Technology
- Dec 9** *Holiday Party at the Yankee Silversmith Inn*, Wallingford
- Jan 24** *Plumbing and Water Purification* – Dale Abbott, A-Water Solution of CT, LLC

Holiday Inn
201 Washington Ave
North Haven
(203) 239-6700

Are You Handing Out the Mandated Documents?

Here we are approaching the end of our sixth year of licensing, and I'm still being asked:

Real Estate Agents: What's that you're handing out? We haven't seen those before.

Licensed Home Inspectors: I can't find that requirement in the 15 pages of Rules and Regulations for Home Inspectors. Do we have to? Where is it stated?

Interns: We were never told in our formal training course or by our Supervisor about this requirement.

Well, here is the requirement and explanation that mandated these documents be handed out:

- Connecticut General Statutes Section 20-492a: "(b) Prior to performing a home inspection, each licensee shall inform the client, *in writing*, that the licensee's work is subject to regulation by the department and that inquiries and complaints concerning the licensee's work may be directed to the department."

The required document that was designed by the Department of Consumer Protection (DCP) is entitled **Introduction and Required Disclosure to Consumer** (Regulation 20-491-1).

- The Licensing Board attached to this document the CT Home Inspection **Standards of Practice** (Regulation 20-491-2-13) and **Code of Ethics** (Regulation 20-491-14). By attaching these to the statutory requirement, it became a mandate to hand all 3 documents out prior to the inspection. When dealing with out-of-state clients, who will not be available prior to the start of the inspection, these documents can be forwarded by fax, e-mail or US mail.
- Due to a legislative mistake in Regulation 20-491-13d #12 **General Limitations and Exclusion** section of the Standards of Practice, it is advisable to also include in this handout the letter from DCP and the Licensing Board. It's dated October 2, 2002 and clarifies Regulation 20-491-13d #12. (You should always get a signature from your client acknowledging receipt of said documents).
- *Note to Interns* - You are required to hand out these documents. However, as stated in the quoted statute above, it is the licensee's name and license # that must be included.

You can view and download these documents from CAHI's web site (www.ctinspect.com). Click on "Helpful Information" and click "CT Regulations, Standards and Ethics." These are the documents you are required to hand out. Print them off the site or download to a file on your computer.

You do not have to hand out the full 15+ pages of regulations which can be viewed on DCP web site (their web address can be found under "Useful Links" on our site).

These documents are available to everyone.

President's Corner

Bernie Caliendo

There has been a lot of planning and events going on for our members lately. Make sure you are taking advantage of your benefits and opportunities of membership. Our bus trip was one of the best. (page 5) Just ask someone who went. Our annual Holiday Party is coming up on Dec 9th and is the best deal we have ever offered (page 4). We also have the required CT Law Seminar on January 13th. (page 9). Don't wait, sign up now!

Later this month CAHI will be participating in a conference with the Connecticut Association of Realtors (CAR) and where we will be able to promote our organization to real estate agents. We will let them know who we are and why it is important to find and recommend a CAHI inspector.

In 2007, we again will be working with a number of associations to make sure the legislature finally SUNSETS the supplemental conveyance tax on home owners. This tax affects everyone who sells their home, which greatly effects the elderly when trying to downsize to cut expenses so they can survive. The state, towns and cities have enough taxes and fees generated without having to target one small segment of the population (home sellers) to make up their short falls! If they could only understand the meaning of exercising fiscal responsibility like all taxpayers have to.

On a different note... As we come into the new year, we are moving full speed ahead. Monthly meeting seminars have speakers booked *up through May!* The list of upcoming topics are so vital to our inspection knowledge. Our next bus trip is in the planning stage. We will be distributing a members' survey and hope most of you will participate in giving us your opinion on our organization. We want to know your business needs where we can help, seminars wanted, bus trip suggestions. We have had requests to go back to Strawberry Bank Museum in New Hampshire and to a building trade show in New York. Please keep those ideas pouring in. It helps us make the best decisions. CAHI provides the best and most continuing education per year, meeting the minimum requirements set forth by the CT Home Inspection Licensing Board. Just come and get it!

To all our members and friends, have a wonderful family Thanksgiving, a safe and healthy holiday season, and a very prosperous New Year!

November Keynote Speaker

This month's meeting topic is **Heating and Water Heater Systems.**

Our meeting will feature Roger Duquette from Carlin Combustion Technology, Inc. Roger will be covering types of heating and domestic water heater systems that utilize a power gas or oil burners, conversion burners versus original equipment manufacturer, fuel types utilized, primary controls utilized and their typical sequence of operation, and general equipment condition and maintenance practices.

2 hours of Continuing Education Credits



Happy Veterans Day

November 11th

Thank YOU!

Licensing Board Update

Below is a proposed addition to the regulations. If approved, they will become part of the Standards of Practice for home inspectors.

STATE OF CONNECTICUT
DEPARTMENT OF CONSUMER PROTECTION
NOTICE OF INTENT TO AMEND REGULATIONS

In accordance with the authority granted in Sections 4-168 and 20-491 of the Connecticut General Statutes, it is the intention of the State of Connecticut, Department of Consumer Protection to amend the Regulations of Connecticut State Agencies by adding Section 20-491-29 concerning Home Inspector Interns.

All interested persons who wish to express their views orally may do so at a public hearing to be held at the Department of Consumer Protection, Room 119, State Office Building, 165 Capitol Avenue, Hartford, Connecticut 06106 at 10:00 a.m. on Friday, December 15, 2006.

All interested parties who wish to submit data, views or arguments may do so in writing within thirty (30) days following the publication of this notice. An original and ten (10) copies of any such written materials should be directed to Edwin R. Rodriguez, Commissioner, Department of Consumer Protection, Room 103, State Office Building, 165 Capitol Avenue, Hartford, Connecticut 06106.

The proposed changes are set forth as follows:

STATE OF CONNECTICUT
REGULATION
DEPARTMENT OF CONSUMER PROTECTION
CONCERNING
HOME INSPECTORS

The Regulations of Connecticut State Agencies are amended by adding section 20-491-29 as follows:

(NEW) Sec. 20-491-29. Well pump systems.

- (a) If the home inspector is informed or observes that the house water supply is from a private well, the inspector shall describe:
- (1) The type of well pump that is in use (e.g. shallow well, jet pump or submersible pump); and
 - (2) The apparent condition of the water storage tank.
- (b) The inspector shall also fully open two cold water sink faucets in the building and observe the operation of the pump system for a full cycle of the system (from pump on - to pump on) or for five minutes, if the pump does not shut off within that time, and report:
- (1) Whether or not the pressure gauge on the system is functional;

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- (2) Whether or not the pump turned off during the test outlined above, and if the pressure gauge is functional, the approximate pressure at which the pump turned on and approximate pressure at which it turned off;
 - (3) The presence or absence of a pressure relief device at the storage tank when the pump is of the submersible type;
 - (4) Any unusual or abnormal operating characteristics of the pump system (e.g. pump short cycling); and
 - (5) The presence of water treatment or filtration systems.
- (c) Nothing in this section shall prohibit a home inspector from conducting a more detailed or in-depth analysis of the well pump system if the inspector is qualified and so desires.

STATEMENT OF PURPOSE: To establish guidelines for home inspectors who observe that the house water supply is from a private well and to clarify the requirements regarding this aspect of a home inspection.



CAHI's Annual Holiday Party

Saturday, December 9th
7:00 p.m. til ___?

Yankee Silversmith Restaurant
Route 5, Wallingford, CT

Come join us for great food, drink and lively conversation! This year is the best deal yet. Members pay \$45 and your significant other is FREE. Hot and cold hors d'oeuvres, buffet including 3 main entrées with all the fixings, drinks and dessert!

Seating is limited and sign-up is on a first-come, first-served basis. Don't wait, reserve your place now! Tickets may be purchased:

1. On our web site - www.ctinspect.com
 - Click on "Special Events"
 - Click on "Holiday Party Sign-up"
 - Choose "Member-single" or "Member and Guest",
 - Click "Add to Cart"
 - Pay by credit card on our secure page and you're good to go.
2. By Check. Members may send a check with your contact information and number of persons attending to CAHI, 18 Garden Place, Derby, CT 06418. Make sure to mark your checks memo "Holiday Party".
3. At our November 15th meeting.

See you there!

The Bus Ride

About our Bus Trips

CAHI has been providing free bus trips to its members on the average of twice a year for the last few years. The Association covers all expenses for the bus, admission and tour guides, along with arranging for continuing education credits for those who attend. Along with the two tours mentioned below, our past tours have included the Strawberry Bank Museum in Portsmouth New Hampshire, a Guilford historical homes tour in Guilford CT, the Journal of Light Construction Convention in Providence Rhode Island, the Stevenson Truss plant in Monroe CT, and the Westchester Modular Home plant in Wingdale New York. With membership you won't pay for continuing education like this!

If you haven't been able to go, next time take the bus!

Our most recent trip

Our October 12th bus trip brought us to CertainTeed asphalt shingle plant in Norwood, MA for a guided tour. It was a great education, from the process of procuring the raw materials, mixing particulates, heating raw asphalt and additives, installing rolls of fiberglass matting to the production process itself, and on to packaging and shipping. What an operation! Their quality control and quality assurance procedures are second to none. This tour enlightened us on the complexities of the production process of a simple roofing shingle. It was an education you won't find in a text book. We would like to extend a great thanks to all at CertainTeed for their hospitality and expertise. Special thanks to Don Carlson who was one of our guides and worked with us to make it happen; Steve Hern who directed one of our groups and presented a great seminar for us at our October meeting entitled "Up on the Roof - asphalt shingles"; and also to John, Mark and Tom from CertainTeed who provided technical information and assisted as guides to our group.



And that was just in the morning.

The afternoon brought us to the Carlin Combustion Technologies plant in East Longmeadow, MA for a guided tour of their facility. Another great educational experience was had by all who attended. We would like to thank regional sales/technical manager Roger Duquette for his assistance in arranging the tour, conducting the classroom presentation and tour along with his colleagues. The tour guided us through the process of procurement; machining and production; assembly; quality control and assurance, including component analysis; testing and rejection; through to packaging and shipping. Their product lines include gas and oil-fired burners, controls and conversion burners, all for residential and commercial use. We would also like to thank their technicians for their demonstrations using highly sophisticated production equipment to guide us through what it means to produce a top-of-the-line quality product. Roger will also be providing us with more information when he is our guest speaker at our November 15th monthly meeting. Don't miss it.

ULTRAVIOLET DISINFECTION

Tech Brief – A National Drinking Water Clearinghouse Fact Sheet

Submitted by Thomas Hauswirth

Summary

Using ultraviolet (UV) light for drinking water disinfection dates back to 1916 in the U.S. Over the years, UV costs have declined as researchers develop and use new UV methods to disinfect water and wastewater. Currently, several states have developed regulations that allow systems to disinfect their drinking water supplies with UV light. Running a UV light system requires a basic level of operator skill and relatively clean source water. On the down side, however, UV offers no residual disinfection within the distribution system.

What is UV disinfection?

UV light, which continues to be a reliable means of disinfection, involves exposing contaminated water to radiation from UV light. The treatment works because UV light penetrates an organism's cell walls and disrupts the cell's genetic material, making reproduction impossible.

A special lamp generates the radiation that creates UV light by striking an electric arc through low-pressure mercury vapor. This lamp emits a broad spectrum of radiation with intense peaks at UV wavelengths of 253.7 nanometers (nm) and a lesser peak at 184.9 nm. Research has shown that the optimum UV wavelength range to destroy bacteria is between 250 nm and 270 nm. At shorter wavelengths (e.g. 185 nm), UV light is powerful enough to produce ozone, hydroxyl, and other free radicals that destroy bacteria.

The U.S. Department of Health, Education, and Welfare set guidelines for UV light disinfection in 1966. These guidelines require a minimum dose of 16 mWs/cm² [milliwatt seconds per square centimeter] at all points throughout the water disinfection unit.

However, the American National Standards Institute and the National Sanitation Foundation International set the minimum UV light requirement at 38 mWs/cm² for class A point of use (POU) and point of entry (POE) devices that treat visually clear water.

The U.S. Environmental Protection Agency (EPA) lists UV disinfection as an approved technology for small public water systems. In addition, EPA is considering the following variations of conventional UV treatment as "emerging" technologies: pulsed UV, medium-pressure UV, and UV oxidation (i.e., used in combination with peroxide or ozone).

Advantages

Generally, UV is simple to install and requires little supervision, maintenance, or space. Improved safety, minimum service time, low operation and maintenance costs, and the absence of a chemical smell or taste in finished water are primary factors for selecting UV technology rather than traditional disinfection technologies.

UV treatment breaks down or removes some organic contaminants. UV achieves 1-log reduction of *Giardia lamblia* at an intensity of 80-120 mWs/cm², and 4-log reduction of viruses at an intensity of 90-140 mWs/cm². Only recently has the scientific community begun to accept UV as a highly effective tool for *Cryptosporidium* control.

UV light disinfection does not form any significant disinfection byproducts, nor does it cause any significant increase in assimilable organic carbon (AOC).

Research has confirmed that UV effectiveness is relatively insensitive to temperature and pH differences. In addition, researchers found that UV application does not convert nitrates to nitrites, or bromide to bromines or bromates.

Recent pilot studies show that UV-treated drinking water inhibits bacterial growth and replication in the distribution system; however, conditions within distribution systems, such as leaks, still require additional residual disinfection (e.g., free chlorine).

The advantages of using UV, rather than chemical disinfection, include:

- Has no known toxic or significant nontoxic byproducts;
- Has no danger of overdosing;
- Removes some organic contaminants;
- Has no volatile organic compound (VOC) emissions or toxic air emissions;
- Has no onsite smell and no smell in the final water product;
- Requires very little contact time (seconds versus

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minutes for chemical disinfection);

- Does not require storage of hazardous material;
- Requires minimal space for equipment and contact chamber;
- Improves the taste of water because of some organic contaminants and nuisance microorganisms are destroyed;
- Does not affect minerals in water; and
- Has little or no impact on the environment except for disposing of used lamps or obsolete equipment.

Limitations

Microbial and chemical characteristics are two major water quality factors that affect the UV unit performance. Microbial characteristics of water include type, source, age, and density. Chemical water characteristics include nitrites, sulfites, iron, hardness, and aromatic organic levels.

UV radiation is not suitable for water with high levels of suspended solids, turbidity, color, or soluble organic matter. These materials can react with UV radiation, and reduce disinfection performance. Turbidity makes it difficult for radiation to penetrate water.

Disadvantages of UV disinfection include:

- No disinfection residual;
- No technical database exists on how well UV systems perform for various water quality conditions; and
- No standardized mechanism measures, calibrates, or certifies how well equipment works before or after installation.

Systems also should consider using different kinds of microbial testing. Laboratories typically test for total coliform to judge microbiological activity in drinking water—but coliforms are sensitive to UV light. Because of this sensitivity, microbial tests for UV treated finished water should include a Heterotrophic Plate Count (HPC) test. HPC microorganisms may provide a better disinfection assessment than the UV sensitive coliforms.

Process Description

UV light effectively destroys bacteria and viruses. However, how well the UV system works depends on the

energy dose that the organism absorbs. If the energy dose is not high enough, the organism's genetic material may only be damaged rather than disrupted.

An effective dose is measured as a product of the lamp's intensity (the rate at which photons are delivered to the target), including radiation concentration, proper wavelength, exposure time, water quality, flow rate, and the microorganism's type, and source, as well as its distance from the light source.

At a minimum, drinking water systems should install two UV units, which are both capable of carrying the amount of water the system was designed to handle. Having two units in place assures continuous disinfection when one unit is being serviced. Two units also can ensure operation during low-flow demand periods.

Modular units designed for small drinking water systems are easy to install and operate (two plumbing connections per unit and one electrical hook-up). They should be equipped with automatic cleaners and remote alarm systems. For systems in isolated areas, operators should maintain and store a set of spare parts onsite, and consider a telemetry system for monitoring treatment.

Typical UV light components include:

- A stable high-voltage source of electricity because low-line voltage would result in a lower UV dose;
- A chamber made of stainless steel or any other material that is opaque and will not corrode;
- UV lamps that are properly secured inside quartz sleeves, easing installation, replacement, and maintenance;
- Quartz sleeves with sufficiently high transmission rates to deliver the UV energy produced by UV lamps;
- Mechanical wipers to maintain optimum transmission between scheduled cleaning and maintenance work;
- Sensors to monitor the UV intensity passing through the water. These sensors need to be connected to alarm systems to alert the operator in case of low UV intensity. The operator must have easy access to these sensors for necessary installation, replacement, calibration, and maintenance;
- Safety control to shut off UV lamps in case of low-flow levels and elevated lamp temperature;

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- Arc and lamp-out monitors to alert the operator of system failure; and
- Electronic ballasts.

UV units are currently used as stand-alone treatment systems or as part of a series of other drinking water treatment processes or multiple barrier system. A common treatment that uses UV light to remove and disinfect contaminants from groundwater sources involves a combined ozone or hydrogen-peroxide process along with UV application. So, it is common to find that manufacturers of UV equipment also manufacture ozone equipment.

Furthermore, the drinking water treatment industry provides UV equipment (mainly closed chamber units) for short-term uses. Rental units are used in cleanup and emergency situations, such as if groundwater is contaminated by spilled toxic organic compounds.

Monitoring and Operation Requirements

Factors that affect UV light system performance are: lamp output, lamp aging, and plating or fouling of unit surfaces. To better control these factors, operators must ensure continuous dose measurement (i.e., accurate intensity and flow-rate measurement) and proper maintenance (cleaning as well as lamp and sleeve replacement regimes).

Technological advances have eliminated many of the operation and maintenance problems that were associated with earlier UV applications. Current systems are equipped with mechanical cleaners, ultrasonic cleaners, or some selfcleaning mechanism (mandatory if water fouling agents, such as iron, are present in the water entering the unit); lamps that are easy to install and replace; and alarm systems that indicate minor and major failure.

To ensure continued system operation, a maintenance schedule needs to be in place. This schedule should include periodic site inspections; changing lamps annually or when light transmission efficiency has decreased to 70 percent; inspecting and cleaning surfaces; inspecting or cleaning the UV chamber interior every six months; and inspecting and replacing ballasts, O-rings, valves, and switches.

Furthermore, the operator should monitor water turbidity and color since they are natural barriers to UV light transmission. And some dissolved minerals, such as calcium, have a tremendous negative effect on UV absorbance.

Since it may not be practical to provide instantaneous stand-by power during power outages, the system should be designed to automatically stop water flow or provide an alternate means of disinfection as a backup. Where the system is dependent on electrically powered pumps, this measure may not be necessary because the pumps will shut off when the power goes out. However, gravity flow systems may be vulnerable.

UV disinfection should have the following minimum operational controls and procedures:

- A central display indicating alarms for power failure, lamp failure, hours of lamp operation, low UV dosage, high lamp temperature, high ballast temperature, and high system flows;
- Methods that monitor lamp temperature, ballast temperature, and system water flows;
- A minimum of two photodiode sensors per unit to monitor UV dosage at 254 nm. These sensors must be calibrated using approved standards each time the lamps are cleaned or replaced or the UV chamber is serviced;
- Automatic UV system by-pass or shutoffs, which are activated whenever the system exceeds peak design flow rates, when UV dosage is low, or when lamp or ballast temperatures are high; and
- Two UV units should be installed so flow is not interrupted when one unit is out of service.

Where can I find more information?

Hargy, T.M., J.L. Clancy, and Z. Bukhari. 2000. "Shedding UV Light on the Cryptosporidium Threat." In NSF Proceedings of the Small Drinking Water and Wastewater Systems. International Symposium and Technology Expo: Phoenix, Arizona.

Malley, J.P., G.A. Snicer, and A.M. Doucette. 1998. "Alternative Disinfection Strategies for Small Systems." In Small Systems Water Treatment Technologies: State of the Art Workshop. NEWWA Joint Regional Operations Conference and Exhibition: Marlborough, Massachusetts.

Parrotta, M.J. and F. Bekdash. 1998. "UV Disinfection of Small Groundwater Supplies." Journal of the American Water Works Association. AWWA: Denver.

U.S. Environmental Protection Agency. 1996. Ultraviolet Light Disinfection Technology in Drinking Water

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Application—An Overview. Office of Water:
Washington, D.C. EPA/811-R-96-002.

U.S. Environmental Protection Agency.
1998. Small System Compliance Technology
List for the Surface Water Treatment Rule
and Total Coliform Rule. Office of Water:
Washington, D.C. EPA/815/R/98/001.

CT Law Seminar Sponsored by CAHI

Saturday, January 13, 2007
8:30 to 11:30 am

Holiday Inn
201 Washington Ave (rt 5)
North Haven, CT



Featuring Attorney Kent Mawhinney

Anyone who has attended our law seminars in the past and has heard Kent speak realizes he is the most informative and well received presenter on the CT Law required 3 hour course in the state today! Since CAHI only sponsors this course once a year in January and licensing renewal is coming up in June 07, don't wait till the last minute and be stuck trying to find a provider. The CT Law course is not available every month by any provider. Get it in your continuing education portfolio for license renewal now! COME EARLY, the doors close at 8:30 a.m.

CAHI also provides the best deal in the state. \$99 for everything! Early start time on a weekend, continental breakfast, refreshments at the breaks, conference room setting, attendance certificates which meet the minimum requirements as set forth by the Home Inspection Licensing Board, free parking, and easy on/off access to I-91 (exit 12 from north and south. Take a right off either exit. Holiday Inn is on the left).

You have three ways to register:

1. CAHI's web site (www.ctinspect.com). Click on "Special Events", pick "Law Seminar", fill out the form, click on Check-out, fill in the credit card information (this is a secure page) and you're done.
2. Mail a check for \$99.00 made out to CAHI, along with your name, address and phone/email to CAHI Treasurer, 18 Garden Place, Derby, CT 06418.
3. Sign up and pay at our Nov 15th meeting at the Holiday Inn.

This course is open to all - members, non-members, inspectors, interns, trades people, etc.

Home inspector interns are not required to complete this seminar during your internship. However, information at this seminar is invaluable to all and some content may be of help for the required CT Law Exam before licensure. CAHI recommends interns attend. Knowledge is the basis of your expertise.





Avoiding Flood Damage: A Checklist for Homeowners

Federal Emergency Management Agency

Are you looking for ways to protect your home from flooding? There are many things you can do, depending on the flood hazard in your area, the characteristics of your property, and the zoning and building codes in your community. Some methods are fairly simple and inexpensive; others will require a professional contractor.

This homeowner's checklist will help you become familiar with what you can do. For more information about the costs and benefits of each method, talk to a professional builder, architect or contractor. You should also ask your building department about building permit requirements.

- **Do you know your flood risk?**

Call your local emergency management office, building department or floodplain management office for information about flooding. Ask to see a flood map of your community. There may be a projected flood elevation for your neighborhood. This information will help you determine how much water is likely to come in.

- **Do you have enough flood insurance?**

Even if you have taken steps to protect your home from flooding, you still need flood insurance if you live in a floodplain. Homeowners' policies do not cover flood damage, so you will probably need to purchase a separate policy under the National Flood Insurance Program (NFIP).

It takes 30 days for a flood policy to take effect. This is why you need to purchase flood insurance before flooding occurs. If your insurance agent is unable to write a flood policy, call 1-800-638-6620 for information.

- **Is the main electric switchbox located above potential flood waters?**

The main electric panel board (electric fuses or circuit breakers) should be at least 12" above the projected flood elevation for your home. The panel board height is regulated by code. All electrical work should be done by a licensed electrician.

- **Are electric outlets and switches located above potential flood waters?**

Consider elevating all electric outlets, switches, light sockets, baseboard heaters and wiring at least 12" above the projected flood elevation for your home.

You may also want to elevate electric service lines (at the point they enter your home) at least 12" above the projected flood elevation.

In areas that could get wet, connect all receptacles to a ground fault interrupter (GFI) circuit to avoid the risk of shock or electrocution.

Have electrical wiring done by a licensed electrician.

- **Are the washer and dryer above potential flood waters?**

For protection against shallow flood waters, the washer and dryer can sometimes be elevated on masonry or pressure-treated lumber at least 12" above the projected flood elevation. Other options are moving the washer and dryer to a higher floor, or building a floodwall around the appliances.

- **Are the furnace and water heater above potential flood waters?**

The furnace and water heater can be placed on masonry blocks or concrete at least 12" above the projected flood elevation, moved to inside a floodwall or moved to a higher floor. (You have more options for protecting a new furnace. Ask your utility about rebates for new energy efficient furnaces. The rebate plus the savings in fuel costs could make the purchase feasible.)

Furnaces that operate horizontally can be suspended from ceiling joists if the joists are strong enough to hold the

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weight. Installing a draft-down furnace in the attic may be an option if allowed by local codes. Some heating vents can be located above the projected flood elevation.

Outside air conditioning compressors, heat pumps or package units (single units that include a furnace and air conditioner) can be placed on a base of masonry, concrete or pressure treated lumber.

All work must conform to state and local building codes.

▪ **Is the fuel tank anchored securely?**

A fuel tank can tip over or float in a flood, causing fuel to spill or catch fire. Cleaning up a house that has been inundated with flood waters containing fuel oil can be extremely difficult and costly. Fuel tanks should be securely anchored to the floor. Make sure vents and fill line openings are above projected flood levels. Propane tanks are the property of the propane company. You'll need written permission to anchor them. Ask whether the company can do it first. Be sure all work conforms to state and local building codes.

▪ **Does the floor drain have a float plug?**

Install a floating floor drain plug at the current drain location. If the floor drain pipe backs up, the float will rise and plug the drain.

▪ **Does the sewer system have a backflow valve?**

If flood waters enter the sewer system, sewage can back up and enter your home. To prevent this, have a licensed plumber install an interior or exterior backflow valve. Check with your building department for permit requirements.

You may have other options for avoiding flood damage depending on your needs and financial resources. These include building drainage systems around the property, sealing openings such as low windows, building levees, constructing exterior floodwalls around basement doors and window wells, improving exterior walls, elevating buildings above projected flood levels and relocating buildings away from flood-plains.

For more information, talk to a professional builder, architect or contractor. Ask your building department about building permit requirements.

CAHI Executive Board

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J. Andre Fornier ,	Realtor

The Licensing Board meetings are held at 9:30 am, Department of Consumer Protection, Room 117, 165 Capitol Avenue, Hartford.

The public is always welcome.

E-mail Bernie Caliendo for the latest meeting schedule at bsurehomeinspect@juno.com