

CCLD REVIEW

CONSTRUCTION CODES AND LICENSING DIVISION
MINNESOTA DEPARTMENT OF LABOR AND INDUSTRY

SUMMER 2016

Building officials

Building official forum draws dozens to Camp Ripley

The second annual Building Official Forum on June 17, 2016, hosted by DLI's Construction Codes and Licensing Division, attracted more than 70 attendees from throughout Minnesota.

State Building Official Scott McLellan opened the event at Camp Ripley by discussing issues important to municipal building officials and the building code enforcement profession. Topics included a recap of the 2016 legislative session, progress made in the past year addressing challenges to the industry and establishing goals for the coming year. McLellan also shared the results of a [recent survey about the educational needs of building officials](#).

Assistant Director Scott McKown discussed recent improvements made to the state's delegation agreement process and gave an update about building inspection



State Building Official Scott McLellan addresses attendees at the second annual Building Official Forum on June 17, 2016, at Camp Ripley.

programs and classes available through a community college along with the potential for another through the university system. The forum concluded with a discussion of the ongoing challenges facing building officials including the increasing complexity of the codes.

Boilers

Reminder: Boiler and pressure vessel codes in effect

DLI would like to remind all involved with the construction, installation, operation and inspection of boilers and pressure vessels that the following codes and standards became mandatory Jan. 1, 2016, in Minnesota.

The 2015 American Society of Mechanical Engineers (ASME) codes

- Section I, Power Boilers
- Section II, Materials
- Section IV, Heating Boilers
- Section V, Non Destructive Examination
- Section VI, Maintenance and Operation of Heating Boilers
- Section VII, Maintenance and Operation of Power Boilers
- Section VIII, Division 1, 2, and 3, Pressure Vessel Construction



Updated boiler and pressure vessel codes have been in effect since Jan. 1, 2016, in Minnesota.

- Section IX, Welding
- 2015, CSD-1, Controls and Safety Devices for Automatically Fired Boilers

2015 National Fire Protection Association

- NFPA-85, Boiler and Combustion Systems Hazards Code

2015 National Board Inspection Code

- Part 1, Installation
- Part 2, Inspection
- Part 3, Repairs and Alterations

Visit www.dli.mn.gov/CCLD/Boiler.asp for more information.

DLI electrical staff share information at Upper Midwest Expo



DLI staff participated in the Upper Midwest Electrical Expo on April 13-14, 2016, in Minneapolis. More than 10,000 people from 35 states, four Canadian Provinces and Australia took part in the large trade show and educational presentations. The next Expo is April 18-19, 2018, in Minneapolis.

Leaking current

New signs warn of electric shock drowning

In advance of an expected requirement of the 2017 National Electrical Code, signs are being erected at marinas and boatyard facilities warning of the dangers of electric shock drowning.

Electric shock drowning can occur when an electric current leaks into the water and a victim in the water encounters the resulting electric field. The deadly current leaks can, depending on magnitude, paralyze the limbs, incapacitate the lungs or cause the heart to stop pumping and result in drowning. Causes of an electricity leak can include electrically-powered boat lifts, dock lighting, receptacle outlets, dock equipment, submerged irrigation pumps and similar devices.

Electric shock drowning prevention advocates say that the 2017 National Electrical Code (Article 555 Marinas and Boatyards) will likely contain updates to address the sometimes deadly situation by reducing the maximum permissible ground-fault current protection levels and requiring that of warning signs be posted where electrical equipment is installed on or at dock facilities.

For more information, visit www.electricshockdrowningmn.com.



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Codes and standards

New electrical bulletins about wiring, LEDs online

DLI has an online directory of electrical codes and standards bulletins about topics ranging from general safety and wiring to licensing and inspections. View the complete list of DLI's electrical bulletins at www.dli.mn.gov/CCLD/ElectricalCodes.asp.

The newest additions to the list of resources include:

- Use of Type NM Cable in Garages and Accessory Buildings at Multi-Family Dwellings: www.dli.mn.gov/CCLD/PDF/eli_bulletin_nm.pdf
- Wiring Methods for Class 2 LED Drivers: www.dli.mn.gov/CCLD/PDF/eli_bulletin_led.pdf
- LED Inspection Fee Calculation: www.dli.mn.gov/CCLD/PDF/eli_bulletin_led_fee.pdf

Solar

Building Code requirements for solar panel installations

1. A building permit is required for all photovoltaic solar panel installations. Code-compliance checks include a structural analysis to evaluate the additional weight of the panels plus any new snow-drift loads on the roof. DLI, in cooperation with the Minnesota Department of Commerce, developed a [standardized load table](#) to help contractors and building officials determine if the roof structure for wood framed buildings is sufficient without further analysis by a structural engineer. Ground-mounted solar panel systems require a building permit for foundations supporting the panels.

residential buildings have no perimeter access pathway requirement and only require 3-foot-wide pathways from eave to ridge/peak where roof slopes exceed 2:12. Designers must read the rule for specific access pathway requirements.
2. An electrical permit is required.
3. Solar photovoltaic arrays installed on buildings regulated by the Minnesota Building Code (commercial buildings and apartments) must conform to Section 3113. Arrays are limited to 150 feet in any direction. Non-residential buildings are required to provide access pathways around the perimeter of the roof and along the centerlines of the roof as well as meet specific criteria for smoke ventilation through the roof in the event of fire. Multi-family
4. Solar photovoltaic panel arrays installed on buildings regulated by the Minnesota Residential Code (single-family homes, two-family homes and townhomes) are not regulated by Section 3113 Solar Photovoltaic Power Systems, of the Minnesota Building Code.
5. All ground-mounted solar panel systems are classified as "other structures" and are regulated by the Minnesota Building Code. The code review for these installations includes the foundation design for structural support, wind loads and materials. In addition, a 10-foot clear brush-free area is required around the perimeter of the array.
6. Solar installations may be regulated by local zoning ordinances regarding property line setbacks and location on the building.

Vehicles

Electrical contractor vehicles must be properly marked

Minnesota law requires that any vehicle used by a contractor while performing electrical work for which a contractor's license is required must have the contractor's name and license number affixed to the side of the vehicle.

View the Minnesota regulation for complete requirements about marking of contractor vehicles at <https://www.revisor.mn.gov/rules/?id=3800.3570>.

Plumbing: Frequently asked questions and answers

Backflow prevention installation and testing requirements:

- Q. Under the 2015 Minnesota Plumbing Code, a listed double check valve assembly backflow device is now required for fire protection sprinkler systems connected to the building water supply. Because of this change, can a fire protection contractor install the double check valve assembly instead of a plumbing contractor?*
- A. No. A licensed plumber is required to perform or engage in new installation of double check valve assembly and any backflow prevention devices.
- Q. Do I have to be a licensed plumber to be a backflow prevention tester?*
- A. No. A backflow prevention tester does not need to be a licensed plumber or work for a plumbing contractor. Backflow prevention testing can be performed by any company that has a certified backflow prevention tester.
- Q. Can a certified backflow prevention tester perform maintenance or open up a backflow device to clean the internal parts?*
- A. No. A backflow tester can perform work relating to opening and closing valves, hook-up a testing gauge to a backflow device and make necessary observations in accordance with the applicable ASSE testing standard of the device. A certified backflow prevention rebuilder working for a licensed plumbing contractor can open and perform work on any internal parts or replace a backflow device, as well as test the device.

Backflow prevention and testing information:

- Backflow protection, testing for fire sprinklers: www.dli.mn.gov/CCLD/pdf/review37spring16.pdf#page=4
- Backflow fact sheet: www.dli.mn.gov/CCLD/PDF/fs_backflow.pdf
- Sprinklers and the 2015 Plumbing Code: www.dli.mn.gov/CCLD/PDF/pe_backflow_sprinklers.pdf

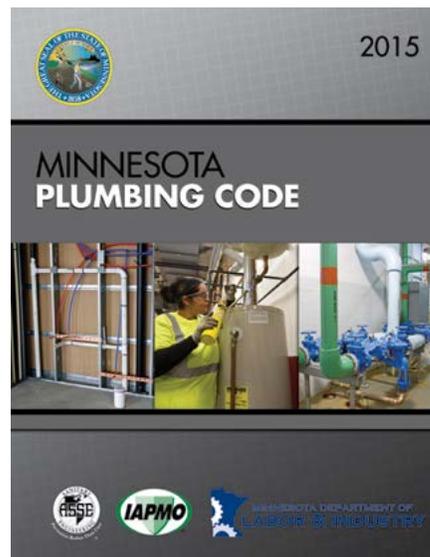
2015 Minnesota Plumbing Code:

- Q. Is polyethylene piping (PE) listed in Table 604.1 of the Plumbing Code allowed for building supply (water service) installed under and inside of buildings?*
- A. Yes. On June 15, 2016, the Minnesota Plumbing Board issued a final interpretation that allows installation of PE piping under and inside of buildings to a water meter or pressure tank. View the final interpretation at www.dli.mn.gov/PDF/pb/Interp/PB0085.pdf.

Installation of PE piping must meet the manufacturer's installation instructions.

- Q. Is a water hammer arrester required on every dishwasher or clothes washer installation? How about during a change out?*
- A. The Plumbing Code requires water hammer arresters (also known as shock arresters) when solenoid valves or other quick closing devices are used in the plumbing system. This requirement protects the fixtures from repeated pressure surges. Arresters must be installed as close as possible to the valves or quick closing devices.

A water hammer arrester may not necessarily be needed for each dishwasher or clothes washer installation or replacement. One properly sized water hammer arrester may serve multiple fixtures with quick closing devices if the arrester is located within close proximity of the quick closing devices.



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Water hammer arresters must be considered in each installation or change out of these fixtures if none exist. It is recommended the designer or contractor consult with the manufacturer for recommended surge limits for adequate protection.

Q. The 2015 Minnesota Plumbing Code requires thermostatic mixing valves in accordance with ASSE 1070 be installed at public-use lavatories. Does this apply to hand washing sinks in a commercial kitchen?

A. No. A hand washing sink is not a lavatory installed in a public use restroom.

Q. Is high density polyethylene (HDPE), coated steel or fiberglass resin an acceptable construction material for use as a flammable and oil waste interceptor?

A. The 2015 Minnesota Plumbing Code does not list an approved type of construction material for use as an oil and flammable waste interceptor. However, those construction materials are acceptable when designed in accordance with the Plumbing Code, documented for the intended application and approved by the administrative authority.

A fact sheet about the requirements of oil and flammable waste interceptor can be found at www.dli.mn.gov/CCLD/PDF/fs_pe_interceptors.pdf.

Enforcement actions

Unlicensed electrical contractor fined \$7,500

Some recent [CCLD enforcement actions](#) include:

- A licensed electrical contractor from Oakdale, Minn., who was not licensed for residential building construction, was discovered performing a kitchen remodel project. Further investigation revealed multiple residential building projects, many without benefit of contracts or permits. The contractor was ordered to cease and desist from unlicensed activity and fined \$7,500.
- An unlicensed contractor from Cannon Falls, Minn., who was the subject of prior enforcement action in 2015, was found to be advertising residential building contracting, electrical and plumbing services on numerous websites. The contractor was ordered to cease and desist from this activity and fined \$10,000.
- An unlicensed contractor from Ramsey, Minn., who was the subject of enforcement action in 2007, contracted with homeowners for services that included a bathroom remodel, tile and plumbing work. In most cases the contractor failed to complete the projects or performed poor quality work. The contractor was ordered to cease and desist from unlicensed activity and fined \$10,000.



Enforcement actions

View enforcement and license actions taken against licensees.

Summaries of all final CCLD enforcement actions are available at www.dli.mn.gov/CCLD/Enforcement.asp. Questions about specific enforcement actions should be directed to (651) 284-5069 or DLI.contractor@state.mn.us.

Planning to hire a contractor? Make sure they're licensed

Before hiring a contractor, visit DLI's consumer web page for steps to take before signing a contract. Some of the topics include how to select a contractor, how to solicit bids, what to include in a contract and how to file a complaint against a contractor.

➤ View more information at www.dli.mn.gov/cclid/RBCconsumer.asp.

Be sure to verify contractor registration for 2016

Registration and renewal are free and completed online every two years

Since September 2012, all contractors who provide commercial or residential building construction or improvement services must either be licensed by DLI (if required by law) or registered in the [Construction Contractor Registration Program](#).

All registrations that were issued prior to October 2015 expired Dec. 31, 2015, so contractors should verify their registration has been renewed through Dec. 31, 2017, as well as the registrations of any subcontractors. Verify your registration using DLI's License Lookup at <https://secure.doli.state.mn.us/lookup/licensing.aspx>.

Why contractor registration?

The Contractor Registration Program helps DLI and other state agencies in their investigations of worker misclassification. Misclassification occurs when a contractor has employees but treats them as independent contractors. Instead of providing workers' compensation and unemployment insurance and withholding payroll and FICA taxes, some employers pay their workers cash or give them 1099's instead of W-2s, denying them the rights and benefits that employees are entitled to under state and federal laws. A 2007 report by the Minnesota Office of the Legislative Auditor identified worker misclassification as a significant problem in the construction industry.

An individual worker or owner of a business cannot be treated as an independent contractor unless they are



licensed by DLI or registered in the Contractor Registration Program, and they meet all nine factors of the nine factor test. An individual is considered an employee and not an independent contractor if not registered.

Contractors can check the license or registration of their subcontractors using [DLI's License Lookup](#). All contractor registrations begin with the letters 'IR' and are followed by six digits.

Register and renew online for free

Registration is free and is done online. Contractors who have already registered but need to renew their registration should do so using the [DLI ReNew online renewal tool](#).

Contractors can also check to see if their subcontractors have been the subject of any enforcement action, including registration suspension or revocation by checking the enforcement actions page at www.dli.mn.gov/CCLD/register_actions.asp.

Boilers

Steam boilers fired at Rollag

Joel Amato, DLI chief boiler inspector, recently participated in the [University of Rollag Steam Engineering School](#) at the Western Minnesota Steam Threshers Reunion Show Grounds located in Rollag, Minn.

The hands-on event covers the basics of historical boiler operation, maintenance and emergency procedures for historical steam engines that have manually fired boilers.

The engine pictured was built in 1899. Also pictured with Amato is Rob Troutt, chief inspector of Texas.



Minnesota Chief Boiler Inspector Joel Amato, front, took part in Steam School in Rollag, Minn. Pictured with Amato is Rob Troutt, chief inspector of Texas.