CCLD Review
Construction Codes and Licensing Division
Minnesota Department of Labor and Industry
Fall 2014

New building code resources from DLI

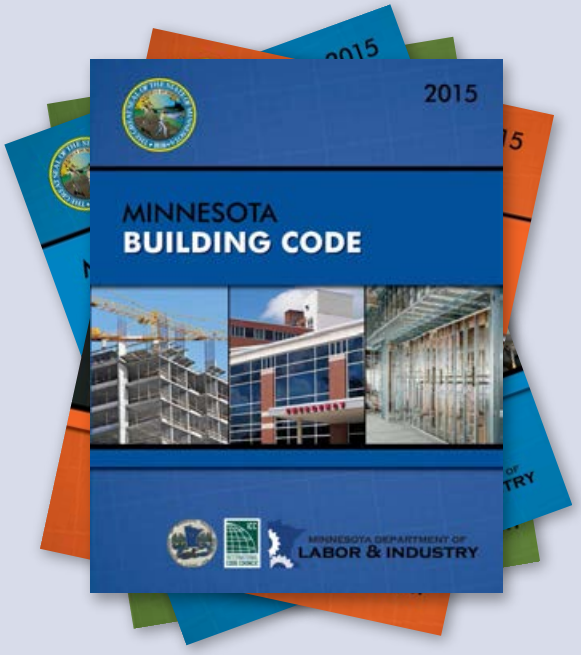
Anticipated availability of new code books is late fall 2014

Minnesota is adopting a new set of updated construction codes that will go into effect Jan. 24, 2015, and Feb. 14, 2015. The code books are anticipated to be available late fall, 2014.

DLI is working with the International Code Council to produce the Minnesota State Building Code books that include only those chapters from the model codes and specific amendments used in Minnesota.

Code book fact sheets about each of the proposed codes are available from DLI at www.dli.mn.gov/CCLD/codes15.asp. These fact sheets describe each of the codes, where to obtain them and when they go into effect.

Also available is DLI's education and training plan for 2014-15, including outreach options for organizations. Read more at www.dli.mn.gov/CCLD/codes15.asp



CCLD seminars about new Minnesota building codes underway

DLI's two seminars about the new Minnesota building codes are underway statewide and locations are filling quickly. Register soon to reserve a seat.

DLI staff members are providing training about code changes that specifically affect construction and code administration in Minnesota. The two seminars are presented at nine locations throughout the state through December 2014.

CCLD seminar: "Are You Ready for the 2012 IRC?" This seminar focuses on the amendments for Minnesota rules chapters 1300, Minnesota Building Code Administration; 1303, Minnesota Provisions to the Minnesota State Building Code, including new radon provisions; and 1309, Minnesota Residential Code.

CCLD seminar: "Mechanical and Energy Code Changes for Residential Buildings in the IECC, IMC and IFGC." This seminar focuses on amendments and significant changes with the adoption of the 2012 International Energy Conservation Code (IECC), 2012 International Mechanical Code (IMC), and 2012 International Fuel Gas Code (IFGC).

Continuing education credits are available for both seminars. For locations and details about how to register, visit www.dli.mn.gov/ccld/education.asp.

Public buildings, state-licensed facilities

New municipal delegation agreement process in place

A municipal delegation agreement is a written agreement to transfer responsibility between DLI and a municipality to administer the Minnesota State Building Code for public buildings and state-licensed facilities.

Some examples of public buildings and state-licensed facilities may include schools, correctional facilities, hospitals, nursing homes, state colleges and facilities owned by state agencies.

A new process is now in place to allow municipalities to request delegation agreements. Instructions about how to obtain a delegation agreement and application materials are available at www.dli.mn.gov/CCLD/delegation.asp.

Staff changes

DLI adds new elevator inspector

Brian Harren joined DLI on July 23, 2014, as its newest elevator inspector. His experience in the elevator industry includes installing, modernizing, repairing and maintaining a variety of elevator-related equipment.

Harren has elevator inspection duties for Bloomington, Richfield and the Minneapolis-St. Paul International Airport.

Learn more about elevator inspection and installation at www.dli.mn.gov/CCLD/Elevator.asp.

Locate inspectors quickly

Find code requirements in one place

DLI has built a one-stop "Local Code Lookup" – online at http://workplace.doli.state.mn.us/jurisdiction – to help contractors and homeowners find local code requirements and code inspectors.

The online search tool helps users find which code authority has local jurisdiction for permits, plan review and inspection in the areas of boilers, building codes, electrical, elevators, high-pressure piping, plumbing or other Minnesota construction codes and licensing disciplines.

CCLD Review is a quarterly publication of the Minnesota Department of Labor and Industry.

Receive email notification when an issue is available by subscribing online.

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Plumbing license

Continuing education for plumber license renewals

Requirements for some licensees begin with their 2014 license renewals

Minnesota Plumbing Board rules require all licensed plumbers to obtain 16 hours of DLI-approved continuing education in each full, two-year license period to renew a license.

Master plumbers and restricted master plumbers

- **Licensed BEFORE Dec. 31, 2012,** must have completed 16 hours of continuing education before they renew in December 2014.

- **Licensed AFTER Dec. 31, 2012,** will report continuing education at their 2016 license renewal.

Journey and restricted journey plumbers

- **Licensed BEFORE Dec. 31, 2013,** will report continuing education at their license renewal in December 2015.

- **Licensed AFTER Dec. 31, 2013,** will report continuing education for the first time at their 2017 license renewal.

Course topics

Of the required 16 hours of continuing education, at least 12 hours must pertain to the Minnesota Plumbing Code and at least four hours to technical topics related to plumbing installations and equipment, the Minnesota State Building Code or the Minnesota statutes governing plumbing work.

More information:

Approved continuing education courses
https://secure.doli.state.mn.us/ccldcecourses/

Questions
- www.dli.mn.gov/CCLD/pe_ce.asp
- DLI.License@state.mn.us
- (651) 284-5031

No more than four hours can be taken online in each license period.

Multiple licenses

Plumbers who have more than one type of license can apply their continuing education hours to all of their licenses. Only the number of hours required for the license with the highest continuing education requirement must be fulfilled.

Medical gas installer certification

Medical gas installers certified by DLI after Nov. 27, 2012, are required to take four hours of continuing education pertaining to medical gas to renew their certification. Approved courses taken to fulfill the medical gas renewal requirement may also be used as either code or technical hours toward fulfillment of plumbing renewal requirements.

Stay in touch

Want more news from DLI? Multiple resources available

- Follow DLI on Twitter at www.twitter.com/mndli
- Sign up for other DLI newsletters focusing on workers' compensation, OSHA and more at www.dli.mn.gov/publications.asp
- Sign up for Labor and Industry News to receive monthly updates about agency projects at www.dli.mn.gov/email.asp.
- View DLI's YouTube channel at www.youtube.com/user/mndli1

Backflow prevention

New requirements for backflow prevention testers, rebuilders

For many, renewing on time will delay ASSE certification provision until 2016

The Minnesota Plumbing Board requires all state certified backflow prevention testers and rebuilders to obtain certification through the American Society of Sanitary Engineering (ASSE) to maintain DLI certification.

This requirement applies to all new applicants and to any currently certified tester or rebuilder who submits a renewal application to DLI after Jan. 1, 2015.

A tester or rebuilder whose certification expires Dec. 31, 2014, will not have to prove ASSE certification until Dec. 31, 2016, if their renewal is submitted on or before Dec. 31, 2014.

If a tester or rebuilder's DLI certification expires, that individual will have to prove they have ASSE certification in order to renew their DLI certification.

Certifications for 80 percent of backflow prevention testers and 60 percent of rebuilders expire Dec. 31, 2014. If these certifications are renewed on time, the rebuilders and testers will have almost three years to obtain ASSE certification. The remaining certified testers and rebuilders have until their Dec. 31, 2015, expiration to obtain ASSE certification.

More information about the certification is available at www.dli.mn.gov/CCLD/PlumbingBackflow.asp and from ASSE at www.asse-plumbing.org/certifications.html

Enforcement actions

Unlicensed residential building contractor fined $7,500

Some recent CCLD enforcement actions include:

- A Moorhead, Minn., residential building contractor's license was revoked. The contractor was ordered to cease and desist from residential building contractor activity and fined $5,500. The contractor failed to pay its subcontractor, then failed to satisfy or appeal a related $13,000 judgment and failed to notify DLI it had become a judgment debtor.
- An unlicensed residential building contractor from Bethel, Minn., was ordered to cease and desist from unlicensed activity and pay a $7,500 civil penalty. The individual contracted with a homeowner to renovate a bathroom, to include the repair or replacement of plumbing. The contractor was paid yet failed to complete the project and caused damage to the bathroom.
- A licensed electrical contractor from Maple Plain, Minn., was censured and penalized $5,000. The contractor's Class A master electrician of record was neither an owner or officer of the company. Also, he was not a managing employee actively engaged in performing electrical work for the contractor.

Enforcement actions
View enforcement and license actions taken against licensees.

Summaries of all final CCLD enforcement actions are 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.

Overview of water re-use and the Plumbing Code

Plumbing Board in the process of adopting national model plumbing code

Increased movement toward green technologies has brought about more interest in rainwater catchment systems for water conservation in building plumbing designs in Minnesota.

Rainwater catchment system

Rainwater catchment systems – also known as rainwater harvesting systems – have several key components including roof drains, a conveyance system, a collection cistern for storage, a treatment system and a pressurized distribution system.

An example of a residential rain barrel used to collect rain water. (Photo: Minnesota Pollution Control Agency)

The Minnesota Plumbing Code allows rainwater catchment systems as an alternate material and method for non-potable uses like toilet flushing, vehicle washing or a combination of toilet flushing and lawn irrigation. Designs and methods are subject to approval by the administrative authority on a case-by-case basis in accordance with Minnesota Rules, part 4715.0330. More restrictive treatment is required when the use is in direct contact with humans or the installation is near potable water supply systems.

For single-family homes, cisterns and rain barrels that capture rain from rooftops through gutters and downspouts provide an acceptable supply of rainwater for outdoor, non-potable uses for plants and gardens with minimal health risks. Irrigating or aerosolizing with the captured rain water is not recommended.

Graywater systems

A graywater system is typically wastewater collected from showers, lavatories, bathtubs or clothes washers. Graywater can contain pathogens and other microorganisms that may cause illness, public exposure risks and other health concerns.

The Minnesota Plumbing Code does not allow for the collection of graywater for re-use in any plumbing application. All plumbing fixtures must discharge into the building drainage and connect to a municipal sewer where available. In jurisdictions where a building's plumbing system is served by a subsurface sewage treatment system, a graywater system may be considered for a subsurface irrigation application as a disposal method subject to the rules and regulations of the Minnesota Pollution Control Agency and must also be approved by the local government. In this case, the plumbing (or conveyance) system up to the approved point of disposal must meet the requirements of the Minnesota Plumbing Code.

What's the future of water re-use?

The Minnesota Plumbing Board – responsible for the adoption of the plumbing code – is in the process of adopting a national model plumbing code. The proposed new code is the 2012 Uniform Plumbing Code adopted by reference with Minnesota amendments.

The proposed code with amendments allows rainwater catchment systems and addresses public health and safety concerns. The board, however, voted to delay including graywater systems for re-use in the proposed plumbing code until recommendations from multiple states are received to help coordinate and address requirements and language to protect public health and safety.

More information from the Web

Minnesota Plumbing Board details and rulemaking information:
www.dli.mn.gov/Pb.asp

Plumbing information from DLI:
www.dli.mn.gov/CCLD/Plumbing.asp

National Electrical Code QUESTIONS & ANSWERS

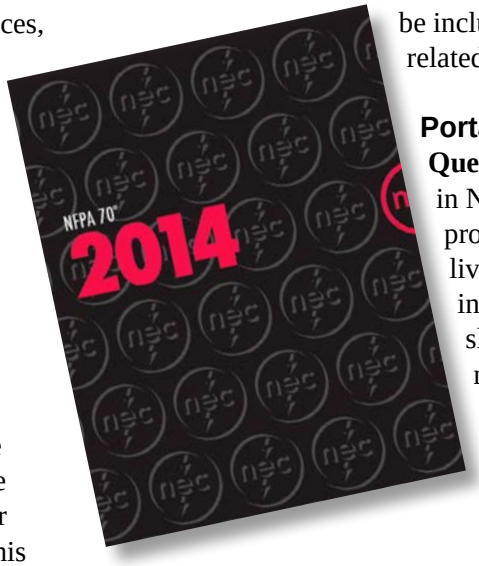
Central heating equipment

Question: Is it permitted to supply central heating equipment from a multiwire branch circuit?

Answer: No. NEC 422.12 states in pertinent part that central heating equipment shall be supplied by an individual branch circuit. The phrase "individual branch circuit" is specifically defined in Article 100 as a branch circuit that supplies only one utilization equipment. Auxiliary equipment that is directly associated with the central heating equipment is permitted to be supplied by the same individual branch circuit (e.g. condensate pumps, valves, humidifiers, electrostatic air cleaner, etc.)

GFCI protection for dishwashers

Question: With respect to receptacle outlets that are installed to serve kitchen countertop surfaces, the commentary for NEC 210.8(A)(6) in the 2014 NEC handbook states that receptacles installed for disposers, *dishwashers* and trash compactors are not required to be GFCI protected. Is this a correct statement?



Answer: No. NEC 210.8(D) is new in the 2014 NEC. It states that GFCI protection shall be provided for outlets that supply dishwashers installed in dwelling unit locations. The GFCI protection is required whether the dishwasher is permanently connected or cord-and-plug connected. (As used in this section of the code, outlet is defined in Article 100 as a point on the wiring system at which current is taken to supply utilization equipment; a receptacle outlet is defined in Article 100 as an outlet where one or more receptacles are installed).

GFCI protection for refrigerators

Question: Certain diagrams and commentary in the 2014 NEC Handbook appear to illustrate and explain that GFCI protection is not required for a receptacle outlet that is installed behind a refrigerator, and where the receptacle outlet is within 6 feet of a kitchen sink. Is GFCI protection required for a receptacle outlet that is installed behind a refrigerator and within 6 feet of the kitchen sink?

Answer: Yes. NEC 210.8(A)(6) requires GFCI protection for kitchen receptacle outlets that are installed to serve the countertop spaces. The receptacle outlet for the refrigerator is not installed to serve the countertop space, so initially one could make a determination that GFCI protection is not required for this particular receptacle outlet.

However, 210.8(A)(7) requires GFCI protection for all receptacle outlets that are installed within 6 feet from the outside edge of dwelling unit sinks.

NEC Handbook commentary and illustrations are intended to be informational only. If there is a discrepancy, the actual code language takes precedence. It's also important to know that commentary and illustrations in the NEC Handbook may only be outlining a specific code rule, and the illustrations and commentary may not be inclusive of all overlapping, associated or related code rules.

Portable appliances

Question: "Dwelling Unit" is defined in NEC Article 100 as "A single unit, providing complete and independent living facilities for one or more persons, including permanent provisions for living, sleeping, cooking, and sanitation." Is a microwave oven, toaster oven, hotplate, toaster, griddle, grill, waffle iron, skillet or similar portable electrical appliance considered to be permanent provisions for cooking?

Answer: No. Cord-and-plug connected electrical appliances that are not fastened in place (portable) are not considered as permanent provisions for cooking.

Guest rooms and guest suites

Question: NEC 210.18 states that guest rooms and guest suites that are provided with permanent provisions for cooking shall have branch circuits installed to meet the rules for dwelling units (guest rooms and guest suites are defined in Article 100 as accommodations combining living, sleeping, sanitary and storage facilities within a compartment). Does this mean that a guest room with permanent provisions for cooking is considered to be a dwelling unit and it must comply with all of the applicable dwelling unit rules in Article 210?

'NEC' continues on Page 7

Solar photovoltaic systems: significant changes in '14 NEC

Articles 690 and 705 of the 2014 National Electrical Code (NEC) contain many updates that impact the installation of solar photovoltaic (PV) systems.

DLI Electrical Area Representative Marty Kumm prepared a white paper to outline some of the largest changes. Visit www.dli.mn.gov/ccld/pdf/fall14_NEC.pdf to view the paper.

The 2014 National Electrical Code contains significant changes pertaining to solar photovoltaic systems.

'NEC Questions & Answers' continued from Page 6

Answer: No. Guest rooms and guest suites that are provided with permanent provisions for cooking are required to have the *branch circuits* outlined in NEC 210.11(C); two 20-ampere small-appliance branch circuits, one 20-ampere bathroom branch circuit and one 20-ampere laundry branch circuit. Additional rules for guest rooms and guest suites are found in 210.60(A) and (B) (number of receptacle outlets and placement), 210.70(B) (required lighting outlets) and 406.12(B) (tamper-resistant receptacles). The requirements in 210.12 for arc-fault circuit-interrupter protection are not applicable to guest rooms and guest suites because such rooms and suites are not dwelling units, regardless of whether or not they have permanent provisions for cooking.

Minor repair work (electrical)

Question: Is a Request for Electrical Inspection (electrical permit) required to be filed for *minor repair work*, such as replacing a defective receptacle outlet?

Answer: No. M.S. 326B.36, Subd. 1 [INSPECTION] states "except for minor repair work as the same is defined by rule," every new electrical installation shall be inspected.

The definition in Minn. Rules Chapter 3800.3500, Subp. 10 states that "Minor repair work" means the adjustment or repair or replacement of **worn or defective** parts of electrical equipment and replacement of **defective** receptacle outlets and manual switches for lighting control. Wholesale or extensive replacement of receptacle outlets, manual switches, luminaire retrofits and similar electrical renovations are not considered minor repair work. Likewise, replacing luminaires or other types of utilization equipment or electrical apparatus in their entirety is not considered minor repair work.

While minor repair work is exempt from electrical inspection, it is not exempt from electrical licensing.

Minor repair work is also required to comply with the NEC, even though it may not be inspected. What was once a simple task of replacing a single defective receptacle outlet is more complicated today – NEC 406.4(D) outlines the criteria for equipment grounding, GFCI protection, AFCI protection, tamper-resistant functionality, weather-resistant functionality, etc. All electrical installations are required by law to comply with the NEC, whether or not they are subject to mandatory inspection.

Wind turbines

Question: Are wind turbines required to be listed and labeled?

Answer: Yes. In addition to other technical revisions in the 2014 NEC, Article 694 is now applicable to all wind electric systems; a 100kW threshold has been removed. NEC 694.7(B) states that wind electric *systems* shall be listed and labeled by a Nationally Recognized Testing Laboratory (NRTL). A wind electric system is comprised of many components, including generators, alternators, inverters, controllers and other apparatus; the listing requirement is applicable to the entire wind electric system, not just individual components.

There are three main documents that are used for certifying wind electric systems: Underwriters Laboratories (UL) UL Subject 6140, UL Subject 6141 and UL Standard 6142. Unlisted wind electric systems installed in Minnesota are required to be field evaluated and third-party certified in accordance with Minn. Rules Chapter 3801.3619 and 3801.3620.

Important reminders about electrical inspection

The following are important reminders for electrical contractors, technology system contractors, registered employers and electrical installers about inspection requirements.

- Requests for Electrical Inspection (permits) are required to be filed for every new electrical installation in any construction, remodeling, replacement or repair, except for minor repair work as defined in law.
- Requests for Electrical Inspection are required to be filed at or before the start of electrical work.
- Requests for Electrical Inspection are required to be filed with the total calculated inspection fees required for the installation.
- Requests for Electrical Inspection are required to include a $5 surcharge.
- Invoices issued by DLI for additional inspection or surcharge fees are due upon receipt.

Permit fees

Requests for Electrical Inspection are required to be submitted to DLI with the total calculated inspection fees required for the installation. There are no prorated payments of electrical inspection fees for larger projects.

When contractors submit a shortage of inspection fees or omit the surcharge fee, DLI sends an invoice to the electrical contractor for the fee shortage. This can cause delays and reduce the efficiency of the inspection process.

What if my project changes?

Projects may change in scope and scale as they move forward. In those situations, additional inspection fees may be due and payable at the time of the final inspection when the inspection fees are audited by the electrical inspector. Conversely, overages are refunded to the permit holder.

Inspections required

All electrical wiring must be inspected before being concealed in any manner.

Contractors are required to notify inspectors in advance to allow sufficient time for rough-in inspections. The same applies to final inspections. Failure to notify the inspector when the project is complete may cause delays in obtaining the required inspections. It could also inconvenience customers, result in corrections after the project is finished and it significantly increases the contractor's liability. Failure to comply with statutes and rules may result in enforcement actions that can include financial penalties, license restrictions, license revocation or other actions available to DLI.

More information from the Web

- General electrical information from DLI: www.dli.mn.gov/CCLD/Electrical.asp
- Electrical inspector directories and maps: www.dli.mn.gov/CCLD/ElectricalInspect.asp
- Electrical codes and standards: www.dli.mn.gov/CCLD/ElectricalCodes.asp

Nationwide events

DLI represented at national electrical meetings

Staff attend NERA meeting in Texas

On behalf of DLI, Sam Sampson (third from left), electrical code representative, attended the annual meeting of the National Electrical Reciprocal Alliance (NERA) Aug. 3-5, 2014, in Austin, Texas. Discussion at the conference included best practices for electrical licensing and certification, inspection techniques, exam development and delivery, and the standardization of regulatory language.

Electrical staff attend national IAEI meeting

DLI staff members attended the 110th Annual Meeting of the Western Section of the International Association of Electrical Inspectors in Cleveland, Ohio, in September.

At left, Dean Hunter, DLI electrical code representative, discusses new electrical technologies at the event's trade show. At right, Sam Sampson, DLI electrical code representative and 2014 president of the Western Section, addresses the more than 300 inspectors, electricians and contractor members at the annual meeting.

Gas piping

Safety campaign targets yellow gas-piping systems

The National Association of State Fire Marshals (NASFM) has launched a nationwide safety campaign to bring awareness to homeowners about proper bonding of yellow corrugated stainless-steel tubing (CSST) due to potential damage risks associated with lightning.

CSST is a flexible, stainless steel pipe used to supply natural gas and propane in residential, commercial and industrial structures. Coated with a yellow, or in some cases, a black exterior plastic coating, CSST is usually routed beneath, through and alongside floor joists in basements, inside interior wall cavities and on top of ceiling joists in attic spaces.

Yellow CSST Safety Campaign

The NASFM urges all property owners with buildings and homes constructed after 1989 with yellow CSST installed to have the tubing checked for proper bonding and grounding. Manufacturers' instructions have required direct-bonding and grounding of yellow CSST in new installations since 2006. All are encouraged to have these systems checked by a qualified and licensed electrician.

The American Gas Association partnered with the NASFM for this campaign. Learn more at www.CSSTsafety.com.