

Construction Codes Advisory Council



m DEPARTMENT OF
LABOR AND INDUSTRY
Construction Codes Advisory Council (CCAC)

Nov. 8, 2023



Deputy Commissioner Kate Perushek
Department Update



CCLD Director Todd Green Division Update

CCLD Technical/Policy Proposals

Electrical

- Removal of specific chapter/paragraph National Electrical Code (NEC) references due to renumbering with each new edition of the NEC
- Amend 326B.33, subd. 7 by removing paragraph which references a license type that no longer exists (Alarm and Communication license).
- Modify "Owner" license exemption language to ensure the exemption narrowly applies to owners doing work on residences that they own and occupy or own and will occupy **only** when that residence has a separate electrical utility service not shared with any other dwelling.

CCLD Technical/Policy Proposals

Elevator

Add language to Internet Continuing Education laws which would exempt elevator constructors from the requirement that internet continuing education courses be approved by the International Distance Education Certification Center (IDECC) or the International Association for Continuing Education and Training (IACET) before the course is submitted for the commissioner's approval.



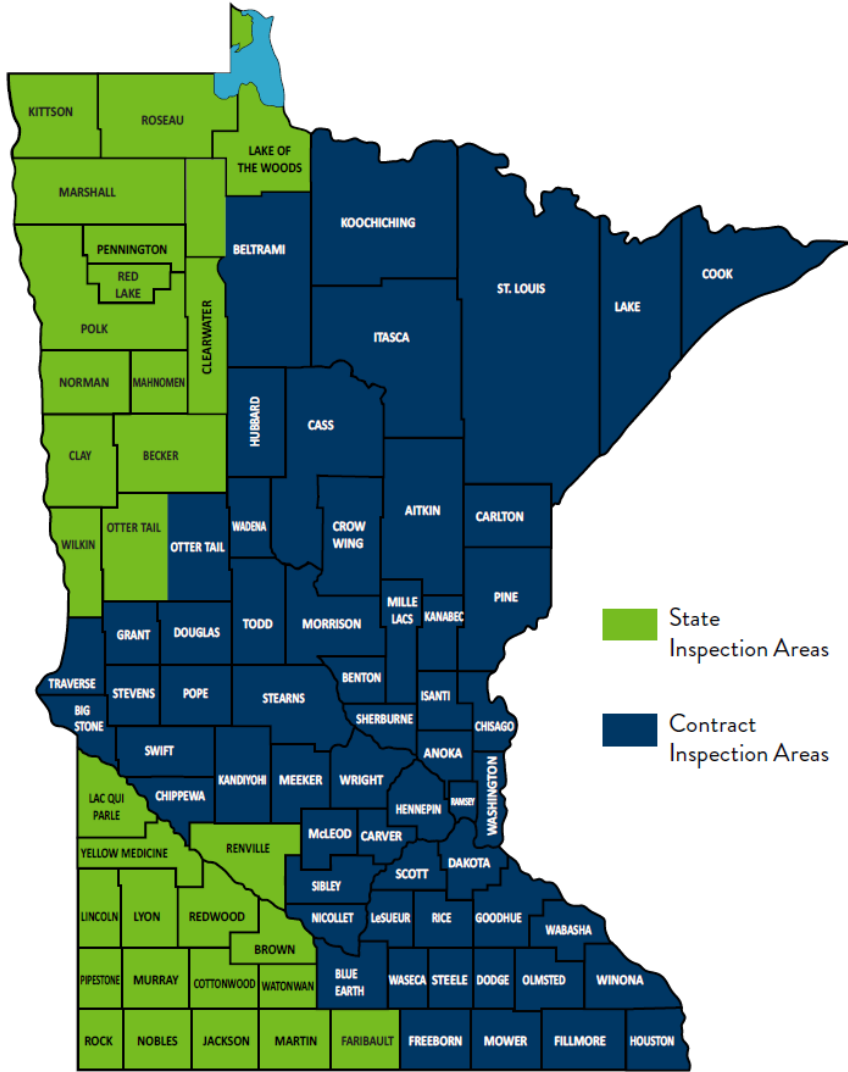
Electrical Inspections Transition

Electrical inspections

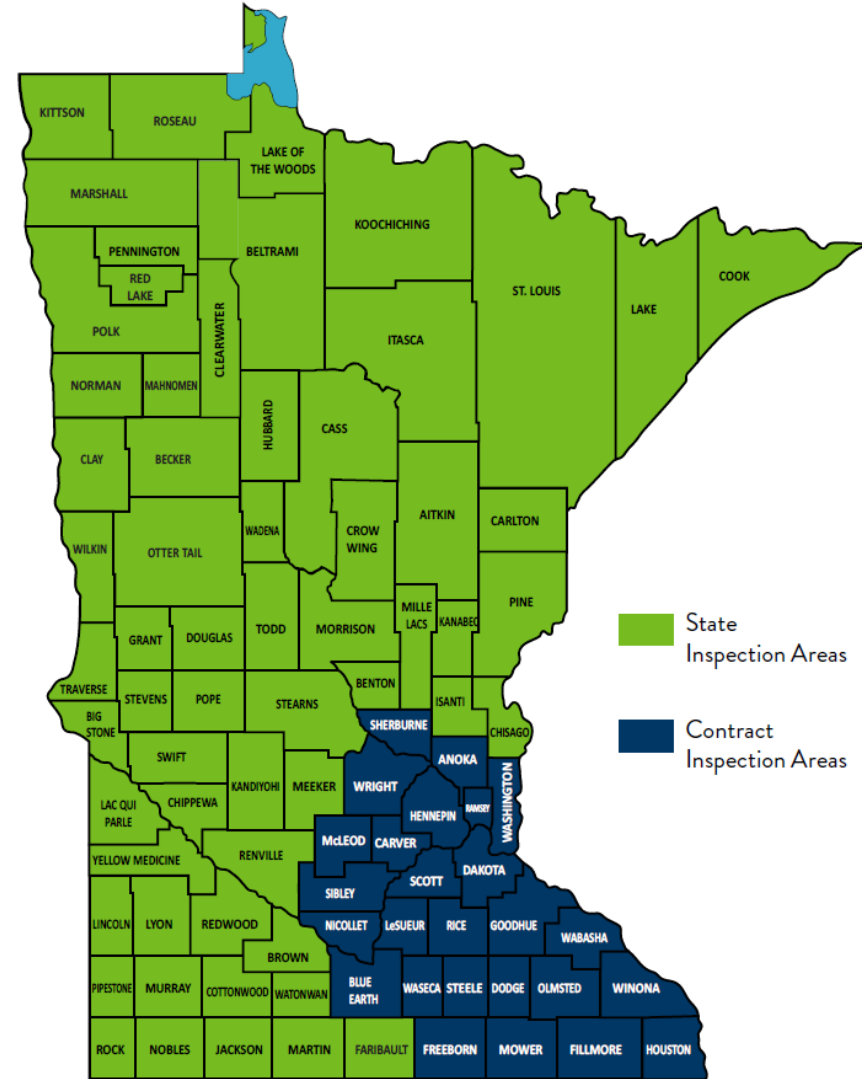
- 70-75 individuals conduct electrical inspections statewide for DLI
- 130,000 +- permits annually
175,000 +- inspections performed
- Department began transition from contract electrical inspectors to state employee inspectors this year
- Increasingly difficult to get proposals for contract inspections, especially in outstate Minnesota.



2023 - State Inspection Areas



2024 - State Inspection Areas



Electrical Inspection Program

Remote Virtual Inspections

- Electrical unit began piloting virtual inspection program in September 2022.
- Virtual inspections limited to electrical installations of three circuits or less, available to contractors only.
- Two virtual inspectors (northwest and southwest Minnesota) conduct inspections via Microsoft Teams with contractors. 300 +- virtual inspections performed monthly. Contractors use iMS online scheduling tool to set date/time for inspection.

Electrical Inspection Program

Remote Virtual Inspections continued...

- CCLD recently procured a new RVI specific software "VuSpex" which integrates into our iMS permit and inspection software. This upgrade will roll out for both electrical and elevator inspections by January 2024.
- Features include ability for live video and offline video and photo uploads which automatically attach directly to the permit record.

Electrical Inspections Program

The screenshot displays the VUSPEX web interface. At the top left, the logo "VUSPEX" is visible. The top right corner shows the user's location as "State of Minnesota" and the name "Kalajan Kevin". Below the logo, the navigation bar includes "Inspector" and "Main Menu > Live Inspection".

The main content area is split into two sections. On the left is a live video feed showing an electrical panel with a "Smith" logo and various warning labels. On the right is a map view showing the location at "308 Village Glen Dr, Arroyo Grande, CA, 93420". The map includes a "Map" button, a "Satellite" button, and a "Details" button. Below the map, there are tabs for "Videos + Photos", "Chat", "Guidesheet", and "Audio Settings".

Below the map, there is a section for "Add Viewer(s)" and a "Record: ELE2301-01338". The "Contact Information" section lists the requested by "KevContractor Kalajan", phone number "5305761078", and email "kevcontractor@whdc.tv". The "Inspection List" section shows "Inspection list" and "Virtual Rough In". The "Meta Information" section includes "Description of work" and "Contractor URL". A "Generate Report" button is located at the bottom of the page.



CCLD Assistant Director Sean O'Neil
Licensing Update | Solar Installers

Licensing Update

- CCLD issues over 100,000 licenses, registrations and certifications to individuals and businesses biennially. Occupations and industries affected by this regulatory activity are boiler operators, electricians, elevator constructors, power limited technicians, high-pressure piping, plumbers, water conditioning installers, pipe layers, residential builders, remodelers, roofers, manufactured home manufacturers, dealers and installers, mechanical contractors and building officials.
- In May 2023 the Licensing Unit started using iMS for its licensing database.
- Exam updates
- License fee reduction sunset

Solar installers licensed as residential contractors

- MS 326B.805, Subd. 1: A person who meets the definition of a residential building contractor must be licensed as such.
- Residential building contractor means a person ...offering to contract with an owner to build residential real estate by **providing two or more specialized skills.**

- Verification and potential modification of the roof support system.
- Roofing flashing/ water resistance integrity
- Electrical work



State Building Official Greg Metz
Division Update



CCLD Learn- Online Learning

CCLD Learn

- Online, on-demand continuing education
- Pay-as-you-go courses between one and three hours in length. \$25- \$45
- New courses every month

- Elevator Licenses, Stairway Chairlifts and Platform Lifts
- Understanding the Building Code for Special Events Centers
- IBC Automatic Fire Sprinkler Requirements
- 2018 IMC and IFGC MN Amendments
- 2018 IRC and MN Amendments
- Glazing and the Residential Code
- MN Plumbing Code Update
- Plumbing in Single-Family Homes

Coming soon:

- MN Accessibility Code Basics
- Deck Construction under the MN Residential Code
- Residential Building Contractor Licensing and Enforcement



Grants Program

Building Official Training Grants

- Eight grants at \$65,000 each to hire a full-time apprentice building inspector
 - Additional points given to jurisdictions outside of the Twin Cities metro area.
 - Application period closed Oct. 25
 - Awards announced by Dec. 8
- Provide supplemental funding so that jurisdictions don't need to bear the entire burden of training up new employees
 - State coaching and counseling support for grantees and those administering the program
 - Assistance with grant application writing upon request

DLI Rulemaking

- EV Charging Stations
- Window Cleaning Safety
- Adult-sized Changing Facilities
- Residential Energy
- Announcement of Code Cycle TAGs forming



State Building Official Greg Metz
Regular Business – Legislative Update



Window Cleaning Safety TAG

Window Cleaning Safety TAG

Name	Role	Organization	Representing
Scott Anderson	Code Enforcement	Minneapolis Construction Code Services	Large Municipalities
Eric Crone	Professional Window Cleaner	Columbia Building Services	SEIU Local 26
Larry Farris	Construction Codes Specialist	BKV Group	Large Building Design
Dan Grinsteinner	Municipal Code Enforcement	City of Brooklyn Center	AMBO
Peter Haag	Minnesota Architects	BWBR Architects	MN- AIA
Ken Hines	Construction Project Manager	CBS Construction Services	Commercial Builder
David Kegler	Commercial Construction Quality Assurance	McGough Construction	Commercial Builder
Michael LaSage	Professional Window Cleaner	Columbia Building Services	SEIU Local 26
Greg Metz	Manager- Code Development	MN DLI/CCLD	Construction Codes Coordination

Proposed DLI Legislation: Window Cleaning Safety



TAG met for two, two-hour meetings: July 18 and Aug. 1

TAG recommends:

- Adopting ANSI/IWCA I-14.1-2001
- Requiring all windows in new construction to provide for safe window cleaning
- Existing buildings undergoing alterations shall comply if windows can't be safely cleaned and the alterations work area can include provisions for safe window cleaning.

Proposed DLI Legislation: Window Cleaning Safety

Building Code focuses on:

- Identifying the Safe Cleaning Methods selected from ANSI/IWCA I-14.1-2001
- Clarifying limitations of the cleaning methods
- Identifying required working surfaces/standing surface characteristics for safety
- Identifying requirements for access to the work area (modeled after provisions for accessing mechanical equipment)



Window Cleaning Safety

Draft proposed rule language is included in your package.

Motion

to recommend to the commissioner to proceed with rulemaking for window cleaning safety as proposed.



Adult-Sized Changing Facilities TAG

Adult-Sized Changing Facilities TAG

Name	Role	Organization	Representing
Karen Gridley	MN State Accessibility Specialist	DLI/CCLD	Code Development
Scott Kaminski	Facilities Manager	Mankato Public Schools	MASMS
Steve Kartak	Building Code Enforcement	City of Eden Prairie	AMBO
Greg Metz	Manager- Code Development	MN DLI/CCLD	Construction Codes Coordination
Corey Mollet	Minnesota Architects	HDR Architecture	MN- AIA
Mara Peterson	Accessibility Specialist	JQP, Inc.	Accessibility Consultants
Kevin Rolfs	Building Owner Advocate	BOMA	Building Owners & Managers
Sarah St. Louis	Care Recipient Advocate		Caregivers

Adult-Sized Changing Facilities TAG



TAG met for five, two-hour meetings: July 18 to Sept. 12

TAG recommends adult-sized changing facilities at:

- Group A and M Occupancies where six or more toilets are required.
- Group B higher education where classrooms require 12 or more toilets.
- MNDOT rest areas with plumbing and power
- State campgrounds with plumbing and power
- State visitor's centers with plumbing and power
- Group B outpatient clinics where an aggregate of six or more toilets are required.

Adult-Sized Changing Facilities TAG



Criteria:

- Travel distance limited to 1,000 feet (no story limit)
- Changing surface 30" x 70" adjustable height from 17"-38" and supporting 400 lbs.
- Must be co-located with a toilet and lavatory.
- Hand towels or hand dryer, soap, waste receptacle.
- Signage for instructions on use, signage outside door with braille.

Adult-Sized Changing Facilities TAG

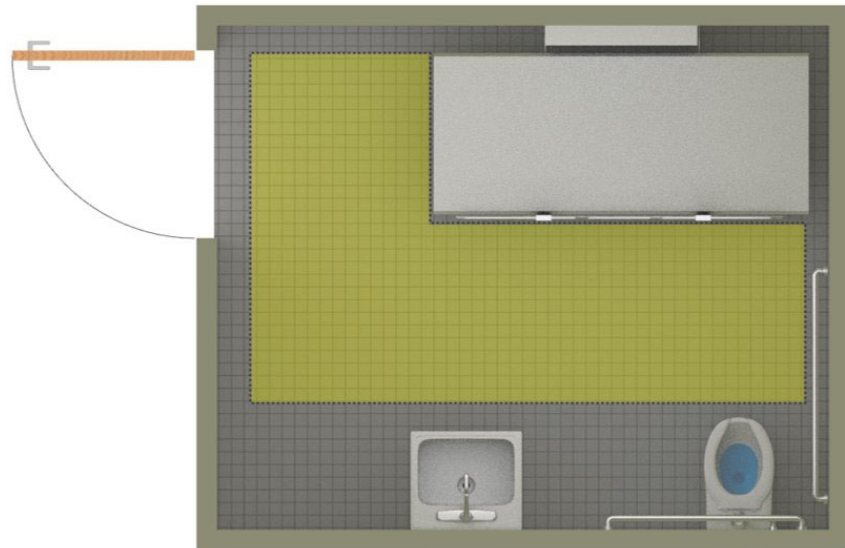
Room layout:

- 36" deep x full length clearance required on not less than one long side and one short end.
- Adds approximately 32 square feet of floor space to a wheelchair accessible toilet.

Projected cost range:

- Add \$13,000-\$14,000 per toileting facility for added floor space, finishes and installation.

(special thanks to HGA Architects for providing construction cost estimates)



Adult-Sized Changing Facilities

Draft proposed rule language is included in your package.

Motion

to recommend to the commissioner to proceed with rulemaking for adult-sized changing facilities as proposedx



EV Charging Facilities- TAG

Electric Vehicle Charging Facilities - Scoping TAG

Name	Role	Organization	Representing
Scott Anderson	Code Enforcement	Minneapolis Construction Code Services	Large Municipalities
Nick Erickson	Affordable Housing Advocate	Housing First Minnesota	Market Rate Housing
Karen Gridley	MN State Accessibility Specialist	MN DLI/CCLD	Plan Review & Enforcement
Barry Grieve	Development Manager	Target Properties- Real Estate	Large Retailers
Greg Metz	Manager- Code Development	MN DLI/CCLD	Construction Codes Coordination
William Pim	Power Infrastructure Practicality	Xcel Energy	Electric Utilities
John Taylor	Local Code Enforcement	AMBO	Building Officials

(5) Two-Hour Meetings August 3rd through September 28th

Developed general scoping criteria, alternative criteria for fast charging, and accessibility criteria

Statutory Mandate Requires EV Charging

Conservative Projection of 23% + of Sales will be EV or PHEV in 2030

Year	All Passenger Vehicles in Minnesota				New Passenger Vehicles Sold			
	Total	Fossil Fueled	EV/PHEV	% EV/PHEV	Total	Fossil Fueled	EV/PHEV	% EV/PHEV
2016	5,019,140	5,014,831	4,309	0.09%				
2017	5,069,838	5,064,584	5,254	0.10%	362,131	361,186	945	0.26%
2018	5,121,049	5,114,849	6,200	0.12%	365,789	364,843	946	0.26%
2019	5,172,777	5,159,799	12,978	0.25%	369,484	362,706	6,778	1.83%
2020	5,225,027	5,208,998	16,029	0.31%	373,216	370,165	3,051	0.82%
2021	5,277,805	5,253,412	24,393	0.25%	376,986	368,622	8,364	2.22%
2022	5,330,583	5,299,828	30,755	0.57%	380,756	374,394	6,362	1.67%
2023	5,383,888	5,349,418	34,470	0.60%	384,563	380,848	3,715	2.57%
2024	5,437,727	5,396,310	41,417	0.76%	388,409	376,757	11,652	3%
2025	5,492,104	5,427,150	64,955	1.18%	392,293	368,756	23,538	6%
2026	5,547,025	5,446,411	100,614	1.81%	396,216	360,557	35,659	9%
2027	5,602,495	5,453,860	148,635	2.65%	400,178	352,157	48,021	12%
2028	5,658,520	5,445,216	213,304	3.77%	404,180	339,511	64,669	16%
2029	5,715,106	5,424,239	290,866	5.09%	408,222	330,660	77,562	19%
2030	5,772,257	5,386,560	385,696	6.68%	412,304	317,474	94,830	23%
2031	5,829,979	5,331,848	498,132	8.54%	416,427	303,992	112,435	27%
2032	5,888,279	5,259,764	628,515	10.67%	420,591	290,208	130,383	31%
2033	5,947,162	5,169,968	777,194	13.07%	424,797	276,118	148,679	35%
2034	6,006,633	5,062,112	944,522	15.72%	429,045	261,718	167,328	39%
2035	6,066,700	4,935,844	1,130,856	18.64%	433,336	247,001	186,334	43%
2036	6,127,367	4,790,806	1,336,560	21.81%	437,669	231,965	205,704	47%



EV Charging Facilities TAG Recommendations



EVSE-Installed, EV-Ready and EV Capable Space Requirements^a

Total Number of Parking Spaces (including charging spaces)	EVSE-Installed^b	EV Ready	EV Capable^c
5-25	0	0	2 (1)
26-50	2 (1)	3	8
51-75	3 (1)	2	11
76-100	4 (1)	3	15
101-150	6 (1)	5	23
151-200	8 (2)	6	30
201-300	12 (2)	9	45
301-400	15 (2)	11	62
401-500	20 (2)	15	75
501+	20 + 2% > 500 (2 + 5 % > 500)	15 + 1.5% > 500	75 + 7% > 500

EV Charging Facilities: TAG Recommendations

Fast Charging Alternative Criteria

Total number of parking spaces	Total <u>Minimum</u> kVA required in any combination of <u>EVSE Installed Level 2^a</u> , or <u>DCFC, EV Ready, or EV Capable at 7.2 kVA</u>	<u>Minimum required kVA for EVSE Installed Level 2 or DCFC Spaces^b</u>
5-25	14.4	<u>0</u>
26-50	93.6	<u>23.4</u>
51-75	115.2	<u>28.8</u>
76-100	158.4	<u>39.6</u>
101-150	244.8	<u>61.2</u>
151-200	316.8	<u>79.2</u>
201-300	475.2	<u>118.8</u>
301-400	633.6	<u>158.4</u>
401-500	792	<u>198</u>
501+	10.5% of number of spaces x 7.2 + 792	<u>2% of the number of spaces x 7.2 + 198</u>

EVSE Installed Accessible Space Requirements	
Total Number of Parking Spaces (including EV Spaces)	Min. Number of EVSE- Installed Accessible Spaces
5-25	0 ^a
26-150	1
151-500	2
501+	2 + 5% >500

- a. One EVSE-Capable Stall shall be accessible.

a. Level 2 EVSE = 7.2kVA Minimum. b. At least (1) but not less than 25% shall be Level 2

EV Charging Facilities

Draft proposed rule language is included in your package.

Motion

to recommend to the commissioner to proceed with rulemaking for electric vehicle charging facilities as proposed.



Residential Energy Code TAG Update

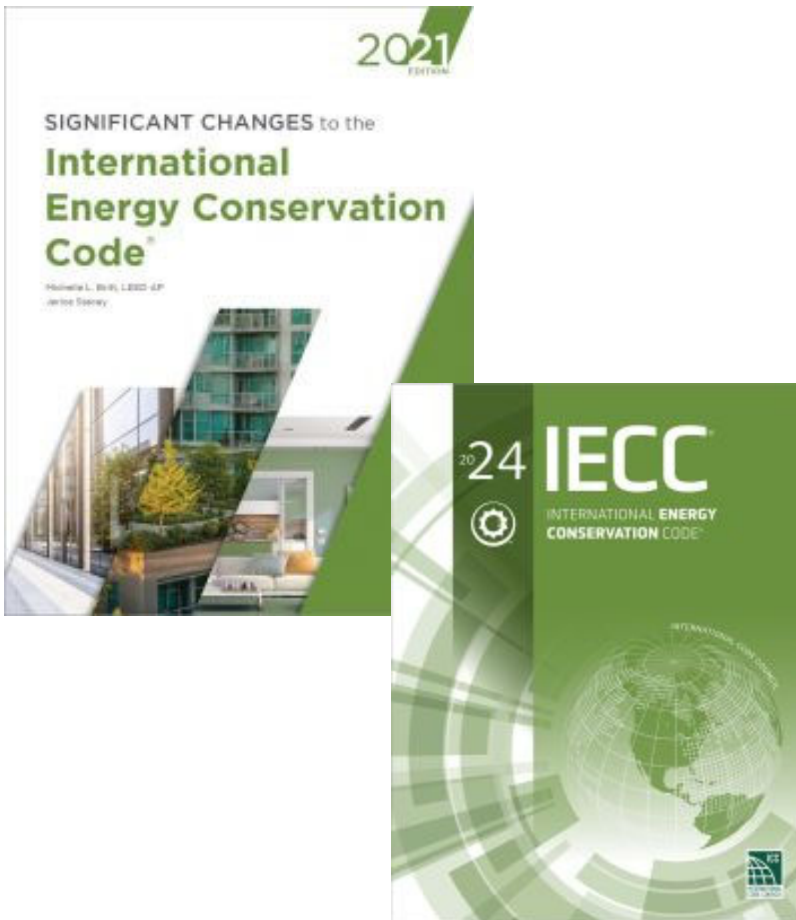
Residential Energy Code TAG

Name	Role	Organization	Representing
Steve Shold	TAG Lead/ Energy Code Specialist	DLI/CCLD	Code Development
Mike Allen	Practical Constructability	Builders Assn of MN (BAM)	Residential Builders
Eric Boyd	Overall Affordability	Housing First Minnesota	Housing for low resourced
Eric Fowler	Bldg Efficiency, Decarbonization	Fresh Energy	Energy Advocacy
Alyssa Jagdfeld	Residential Architect	SALA Architects	Minnesota AIA
Jim Kummon	Residential Developer	Heirloom Properties	Small Developers
Alison Lindburg	Energy Conservation Specialist	Midwest Energy Efficiency Alliance	Energy Advocacy
Greg Metz	Manager- Code Development	MN DLI/CCLD	Codes Coordination
Rebecca Olson	Director- Residential Programs	MN Center for Energy & Environment	Energy Advocacy
Mike Robertson	Low-Resource Housing Advocate	Habitat for Humanity	NGO/Home Builders
Chris Rosival	Mechanical Code Coordination	MN DLI/CCLD	Code Development
John Smith	Mechanical Engineer	Retired Mechanical Engineer	Practical Engineering
Steve Ubl	Municipal Code Enforcement	City of St. Paul	Code Enforcement

Residential Energy Code TAG

Name	Role	Organization	Representing
Steve Shold	TAG Lead/ Energy Code Specialist	DLI/CCLD	Code Development
Mike Allen	Practical Constructability	Builders Assn of MN (BAM)	Residential Builders
Eric Boyd	Overall Affordability	Housing First Minnesota	Housing for low resourced
Eric Fowler	Bldg Efficiency, Decarbonization	Fresh Energy	Energy Advocacy
Alyssa Jagdfeld	Residential Architect	SALA Architects	Minnesota AIA
Jim Kummon	Residential Developer	Heirloom Properties	Small Developers
Alison Lindburg	Energy Conservation Specialist	Midwest Energy Efficiency Alliance	Energy Advocacy
Don Sivigny	Supervisor- Rules Development	MN DLI/CCLD	Codes Coordination
Mike Robertson	Low-Resource Housing Advocate	Habitat for Humanity	NGO/Home Builders
Rebecca Olson	Director- Residential Programs	MN Center for Energy & Environment	Energy Advocacy
Chris Rosival	Mechanical Code Coordination	MN DLI/CCLD	Code Development
John Smith	Mechanical Engineer	Retired Mechanical Engineer	Practical Engineering
Steve Ubl	Municipal Code Enforcement	City of St. Paul	Code Enforcement

Residential Energy TAG Progress



- The TAG started meeting Aug. 7 and has held five meetings to-date.
- Work has progressed through 50% of the code.
- The TAG has reviewed 19 Code Change Proposals to-date.
- 2024 IECC available mid-January 2024.



Assisted Living Update

DLI/CCLD Jurisdiction over Assisted Living

DLI and Minnesota Department of Health (MDH) developing a MOU

- DLI gained jurisdiction over AL/ALDC on Aug. 1
- Both DLI and MDH have plan review and inspections requirements
- DLI enforces SBC; MDH enforces NFPA 101
- MDH will accept DLI Certificate of Occupancy as evidence of compliance with facilities portion of the licensing criteria



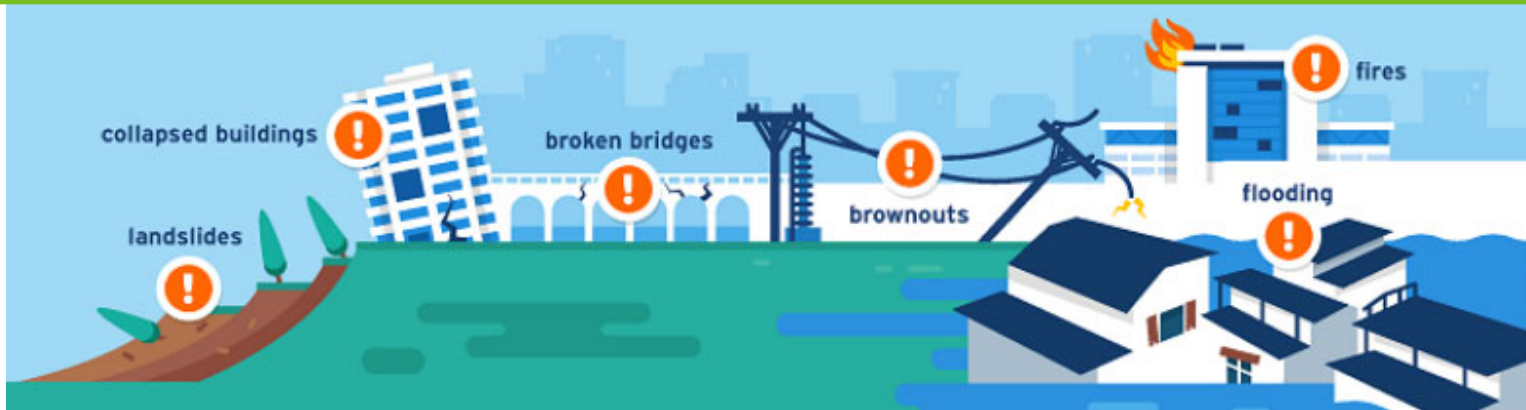


New Business

Greg Metz | State Building Official

DLI Legislation

- Existing Building Energy
- Resiliency



Add Resiliency and Energy Targets for Existing Buildings

Greg Metz | Assistant Director CCLD, State Building Official

Proposed DLI Legislation: Resiliency

Add Resiliency to MS 326B.106, Subd. 1

- Allows for power grid integration technology to mitigate blackouts.
- Allows options to require power storage or generation in some occupancies.
- Allows for more robust materials in areas subject to extreme conditions.
- Allows for stormwater mitigation controls to aid in reducing flash flooding
- Allows for materials selection criteria to mitigate urban heat island effect.

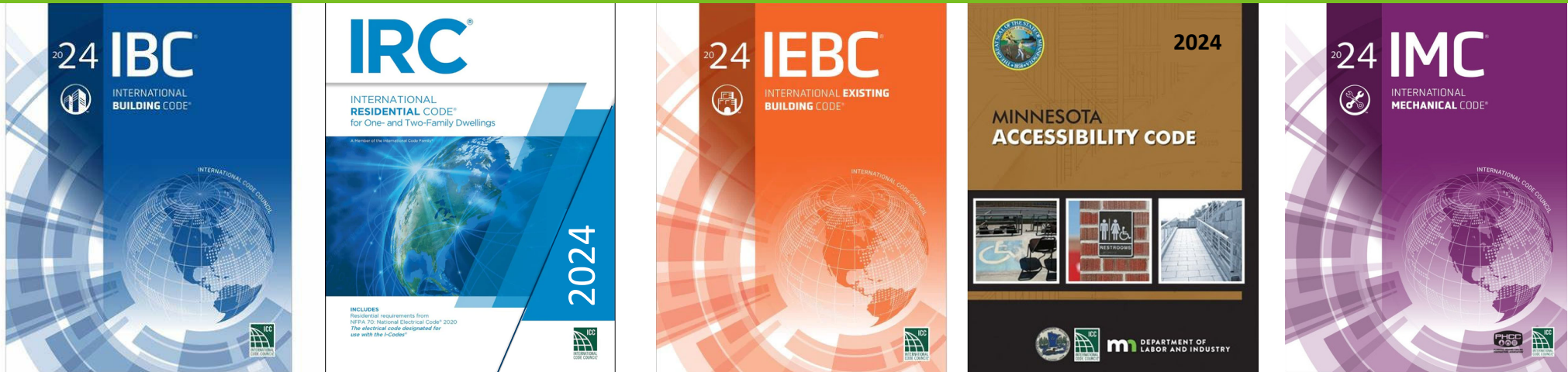
Resilience:
The capacity to withstand or to recover quickly from difficulties.

Proposed DLI Legislation: Existing Building Energy

Existing Building Performance Goal

- Initial legislation in 2023 was to set target goals for existing building energy performance to reduce energy consumption of existing buildings by 50% in 2036 comparing to today's existing buildings.
- Language was removed from the bill.
- **DLI would like to reintroduce and clarify application to commercial buildings.**





Technical Advisory Group Update

Greg Metz | Assistant Director CCLD, State Building Official

Code Cycle Upcoming TAGs

Rule chapters for model code updates in January/February 2024

- 1300 Administration, 1301 BO Certification, and 1303 Special Provisions
- 1305 (Commercial) Building Code
- 1309 Residential Code*
- 1311 Conservation Code for Existing Buildings
- 1341 Accessibility Code
- 1346 Mechanical Code
- Coordination TAG 1305, 1311 and 7511 Fire Code

CCAC members interested in serving on one or more TAGs, email Don.Sivigny@state.mn.us

Staff will identify stakeholder groups and solicit those groups for representatives. TAGs will be presented for approval at the NEXT meeting.

Upcoming Technical Advisory Groups

DLI would like the CCAC's input on the following:

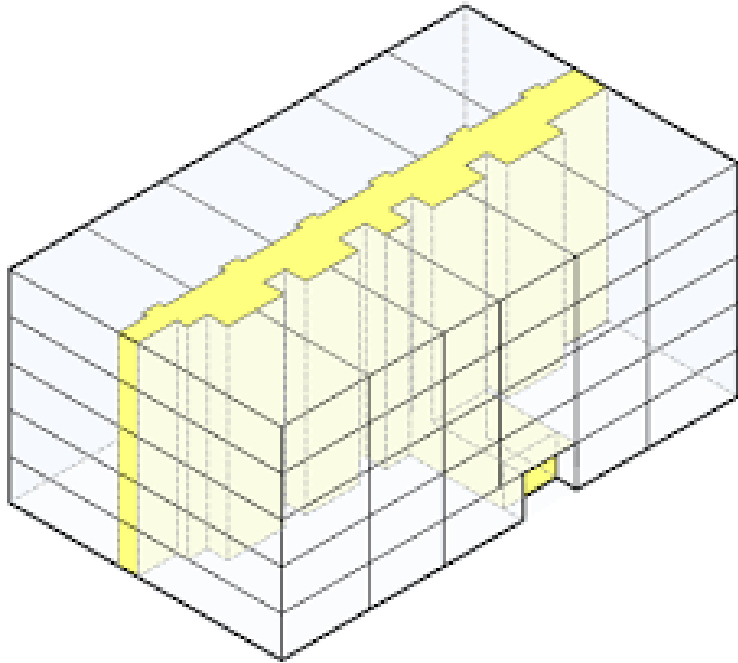
1. Shifting the Residential Energy Code TAG focus to adopting 2024 IRC Chapter 11 for the Minnesota Residential Energy Code and then incorporating it into one Minnesota Residential Code book.
2. Moving residential mechanical requirements to 1309 Chapters 12-20 and incorporating it into the Minnesota Residential Code book.

Potential additional TAG:

- 1309 Residential Mechanical Code (IRC Chapters 12-20)

Representative Kraft Point Access Blocks

Point Access Blocks

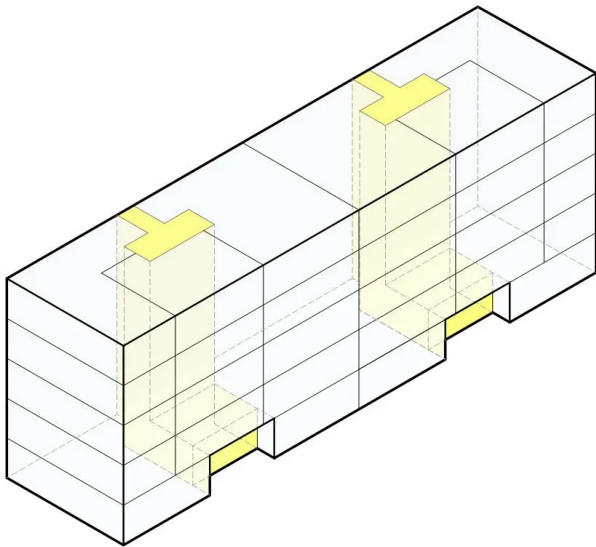


Typical construction in U.S.

- Double Loaded Corridors - less space efficient (max 85%).
- Access to two means of egress and now typically sprinkled.
- Egress requirements not updated with life safety technology advancements.
- Incentivizes studio and one-bedroom apartments.

Point Access Blocks

Point Access Block Construction



- Single point access to floors (efficiency up to 95%).
- Access to one means of egress and always sprinkled .
- Shorter maximum time to egress.
- No change in safety data in places where allowed.
- More flexible floor plans (much easier to have 3 and 4 BR units).
- Cross-ventilation and multiple daylight sources improves livability and energy efficiency.
- Efficiency of space usage improves affordability.

A copy of this presentation can be found on the Construction Codes Advisory Council's webpage

<https://www.dli.mn.gov/about-department/boards-and-councils/construction-codes-advisory-council>