

Meeting Minutes: Board of Electricity

Date: *April 11, 2023*
Time: 9:00 a.m.
Location: **In person/WebEx/Phone**

Members Present

1. Alfreda Daniels Juasemai – via WebEx
2. Thomas Fletcher
3. Cole Funseth
4. Sarah Gudmunson
5. Mike Hanson
6. Jeff Heimerl
7. Duane Hendricks – Chair
8. Steve Haiby
9. Dean Hunter – CO’s Designee
10. Travis Thul
11. Trevor Turek
12. Desiree Weigel – Secretary

DLI Staff & Visitors

Nicole Blissenbach (DLI Commissioner)
Jeff Lebowski (Board Counsel, DLI)
Lyndy Logan (DLI)
Todd Green (DLI)
Marty Kumm (DLI)
Sean O’Neil (DLI)
Clara Albert (Electrical Assn.) – WebEx
Michelle Dreier (Electrical Assn.)
David Fisch (MNESTA)
Joe Kunkel (NU Electric Co.) – WebEx
Tim Kunkel (Tim Kunkel Electric LLC)
Jake Thoennes (UMN) – WebEx

Members Absent

None

1. Call to Order

- A. **Roll Call:** Chair Hendricks called the meeting to order at 9:03 a.m. Roll call was taken by Secretary Weigel and a quorum was declared resulting in 12 of 12 voting members present in person or via WebEx.
- B. **Announcements/Introductions – Chair Hendricks**
 - Re-appointed members: Alfreda Daniels, Cole Funseth, Duane Hendricks
 - New members Thomas Fletcher and Trevor Turek introduced themselves.
 - DLI Commissioner Nicole Blissenbach addressed the board with an introduction of herself and her professional background. She also thanked the board for their work.
 - Everyone present in person and remotely are able to hear all discussions.
 - All votes will be taken by roll call if any member is attending remotely.
 - All handouts discussed and WebEx instructions are posted on the [Board’s website](#).
- C. WebEx instructions/procedures were explained.

2. Approval of Meeting Agenda

A motion was made by Heimerl, seconded by Weigel, to approve the agenda as presented. The roll call vote was unanimous with 12 votes in favor of the motion; the motion carried.

3. Approval of Previous Meeting Minutes

A motion was made by Haiby, seconded by Funseth, to approve the Jan. 31, 2023, regular meeting minutes as presented. The vote was unanimous with 8 votes in favor of the motion, four abstentions (Hanson, Heimerl, Turek, Fletcher); the motion carried.

4. Regular Business

- A. **Expense Approval** – Expense reports will be forwarded to Financial Services for payment.
- B. **Enforcement & licensing update** – Sean O’Neil – See **Attachment A**. Electrical Enforcement Actions can be found on the department’s website at:
<http://www.dli.mn.gov/business/electrical-contractors/electrical-enforcement-actions> -
- C. **Inspection update** – Dean Hunter – see **Attachment B**.

5. Special Business

- A. Officer Election/Vice Chair – meeting was turned over to Dean Hunter, Commissioner’s Designee
Vice-Chair
 - Heimerl and Hendricks nominated Trevor Turek. The roll call vote was unanimous with 12 votes; Turek was elected as Vice-Chair.
- B. Request for Interpretation #23-01/Tim Kunkel Electric LLC – see **Attachment C**
Provide and explain your interpretation of the relevant Code section or Rule part's language:
 - *I believe that the 2020 NEC as adopted tells us that we must provide a 20 ampere rated branch circuit to supply garage receptacles with no exception or consideration to the garage being "new" or "replacement". I believe that there is no legal method to provide that 20 ampere garage circuit when the existing branch circuit or feeder has a maximum rating of 15 amperes.***Provide any additional information you would like the Board to consider:**
 - *I requested this first from DLI and now from the board in the hopes that we can find a path forward where all contractors and the public are aware of the requirements of the NEC as adopted, that when interpretations are made they be published. And ultimately that we are enforcing the minimum requirements set by the NEC. And that if we are deciding that certain sections should not apply in our state that a formal process for the public to submit proposed changes be enacted.*
 - Tim Kunkel addressed the board with his request of a clear definition of what conditions determine the classification of a new garage, a replacement garage, and an existing garage, where those requirements fall into, and changes based on what those definitions are. He believes that with the original code, replacement or existing garages didn’t require an upgrade to the feeder or branch circuit and that existing wiring walls could be continued, however, if the footprint changed in size at that time, you had to bring it to current code, including the separate circuits which would include a 20 amp branch circuit to the garage. Kunkel had a customer inform him that she was getting two differing opinions from garage contractors about these requirements, and he realized he didn’t know the requirements either and that there was no clear statement from the State on when that would or wouldn’t apply. This means that bids have been incorrect, and contractors have been performing different interpretations on what this standard is, which interferes with contractors being able to meet the minimum codes. Is the State is

going to keep allowing contractors to continue using 15 Amp feeders or branch circuits to existing/replacement garages regardless of size and then simply running 12-gauge wiring from that point, and then hoping, in the future, that the upgraded feeder or branch circuit from the house is replaced? Kunkel phrased his question to the Board as follows: “Does the 15 Amp branch circuit from the house to the garage still meet the legal requirements of 210.11(C)(4)?”

- Hunter prepared a presentation titled "Garage Using Existing Garage Feed" to address Kunkel's RFI – see **Attachment D**.
- After the presentation, Fletcher asked for clarification about Hunter's comment regarding the feeder conductor being adequate for the load. Hunter stated that the feeder conductor would have to be adequate for the load from a safety standpoint.
- Kunkel asked if the State would also be applying these standards to bathrooms. He stated that there are thousands of bathrooms that were legal for 15 Amp circuits in the past. He asked if there was a case of remodeling where they would be allowed to retain the 15 Amp circuit and still comply.
- Hunter stated that if a contractor is doing a new installation that they would bring it up to the current code. He stated that contractors would have to meet code if there is new wiring taking place during the remodel.
- Hanson asked why the replacement garage doesn't have to meet code in this situation. He stated that the replacement garage to him is considered a new garage and is confused on why it's acceptable to reuse the existing 15 Amp circuit. Why is there a requirement for the 20 Amp branch circuit in the garage bay when it gets connected to a panelboard with a 20 Amp breaker and now a 15 Amp feeder to it.
- Hanson points out that once the branch circuit load at the panel is too high, the breaker will trip in the house. His interpretation is that the code is not being enforced because the garage is being classified as a replacement garage instead of a new garage.
- Hunter said there are two different issues. There is an existing branch circuit or feeder and there is a new building that needs the appropriate circuits wired. Hunter pointed out that in the NEC there are places where existing installations have been addressed and have been permitted. He agreed with Hanson's comment but pointed out that the NEC is a book of minimums, not maximums.
- Hanson said that in order to be code compliant then you need to turn it into a feeder, put the panel board in, and put the two over current devices in for the minimum which should be the standard. Then the owner can make the decision about whether they want to put in a two circuit panel board and a feeder or upgrade the circuit to be compliant to the current code.

A motion was made by Fletcher, seconded by Turek, to support the stated position of chief inspector Dean Hunter that garage replacement does not automatically require a new feeder to the garage and allow a junction box disconnect in the garage. The majority vote ruled with 9 for and 3 against (Hanson, Heimerl, Weigel); the motion carried.

- C. 2023 NEC Adoption Update
Lebowski said to date there have been no requests for a hearing.

6. Committee Reports

Construction Codes Advisory Council (CCAC) met on Feb. 9, 2023 – Hendricks (rep) / Daniels (alt) – [Presentation Feb. 9, 2023](#)

7. Complaints and Correspondence

8. Open Forum

9. Board Discussion

Heimerl thanked previous board members for serving.

10. Announcements

Regularly scheduled meetings occur quarterly on the second Tuesday at 9:00 a.m., at DLI with WebEx/Phone options

- July 11, 2023 (annual meeting, election of officers)
- October 10, 2023

11. Adjournment

A motion was made by Heimerl, seconded by Haiby, to adjourn the meeting at 10:49 a.m. The roll call vote was unanimous with 12 votes in favor of the motion; the motion carried.

Respectfully Submitted,

Desiree Weigel

Desiree Weigel
Secretary

Green meeting practices

The State of Minnesota is committed to minimizing environmental impacts by following green meeting practices. DLI is minimizing the environmental impact of its events by following green meeting practices. DLI encourages you to use electronic copies of handouts or to print them on 100% post-consumer processed chlorine-free paper, double-sided.

Unlicensed Farmington contractor fined \$30,000

- An unlicensed Farmington contractor was found to be performing residential building construction, remodeling, roofing, plumbing and electrical work without a license. The contractor was ordered to cease and desist from the unlicensed activities and fined \$30,000.
- An unlicensed Burnsville contractor, whose license was previously revoked by DLI, was found to be performing residential building construction, remodeling and roofing without being licensed. The unlicensed contractor was ordered to cease and desist from the unlicensed activities and fined \$30,000.
- A licensed Overland Park, Kansas, technology systems contractor failed to ensure its employees were appropriately registered and/or licensed with DLI and failed to comply with supervision requirements. The contractor was censured and fined \$35,000 of which \$20,000 was stayed contingent on full future compliance.
- A licensed Lake Elmo plumbing contractor failed to ensure its employees were appropriately registered and/or licensed with DLI and failed to comply with supervision requirements. The contractor was censured and fined \$2,500, of which \$2,200 was stayed contingent on full future compliance.
- An unlicensed Minneapolis contractor was found to have engaged in unlicensed electrical work. The contractor was ordered to cease and desist from the unlicensed activity and fined \$10,000.



Enforcement actions
View enforcement and license actions levied against licensees.

More information

View summaries of enforcement actions at dli.mn.gov/workers/homeowners/file-complaint-and-view-enforcement-actions. Contact us at 651-284-5069 or dli.contractor@state.mn.us.

Total Active	Date Range Activity			Issued Permits	Aging of Expired Permits							
Current Count	IN Count	OUT Count	Net Change Count	< 12 Months Count	12-18 Months Count	18-36 Month Count	> 36 Months Count	> 12 Months Count				
73,291	25,633	31,719	(6,086)	58,730	5,965	7,164	943	14,072				
Percentage of Current Active Permits												
	35%	43%	-8%	80%	8%	10%	1%	19%				
	<u># of Inspections Performed</u>		<u>Inspection Reports</u>		<u>AFBs</u>		<u>Refunds</u>		<u>License Checks</u>		<u>Violation Reports</u>	
For Date Range:	42,803		4,904		5,168		1,596		90		0	
Year to Date Total:	42,803		4,904		5,168		1,596		90		0	

"Total Active": The total current active permits ("Issued", "Expired" or "Hold" status).

"Date Range Activity": The permits that were Issued and permits closed out and the net change for the selected date range.

"Issued Permits": Represents the number of permits that are currently less than 12 months old.

"Expired Permits": Permits for installations filed with inspection fees of \$250 or less are void 12 months from the original filing date regardless of whether the wiring is completed. Permits filed with inspection fees of \$250 or less are not refundable after 12 months from the original filing date. The authority to install electrical wiring associated with a specific permit is void at the time of a final inspection or expiration, whichever occurs first. The authority to inspect wiring covered by a permit continues until the installation is approved at a final inspection.

"Aging of Expired Permits": Represents the age of expired permits that are still active. This does not include any permits that have a value over \$250.

"For Date Range:" Represents the numbers in the respective columns during that date range. Violation reports are yet to be counted by this report.

"Year to Date Total:" Represents the numbers for the calendar year beginning January 1st.

"%": Represents the percentage compared to "Current".

"AFBs": Additional Fees for Billings (invoices for inspection fee shortages)



Electrical Permit and Inspection History

State Inspection Areas

CALENDAR YEAR	Permit Information			Inspection Information		
	Total Permits Issued	Permits Completed	Permits Closed but Not Finaled	Final "Final" Insp.*	All other Insp.**	Total Inspections
2020	126,124	123,232	6,026	107,372	55,446	162,818
2021	130,552	122,991	6,748	117,483	60,857	178,340
2022	138,228	92,234	2,969	121,847	61,176	183,023
2023	25,640	9,531	290	28,861	13,825	42,686

The "**Permit Information**" and the "**Inspection Information**" do not necessarily represent the same permits. The "Permit Information" represents permits issued that Calendar Year. The "Inspection Information" represents the inspections performed that calendar year. The inspections may be for permits that were issued in previous calendar years.

"Total Permits Issued" means the permits Issued in the calendar year indicated. Includes permits in status (milestone) 'Abandon', 'Closed', 'Expired', 'Finaled', 'Issued', or 'Hold'. Does not include any other milestone such as "Out of state Inspected Area", "Refunded", etc.

"Permits Completed" means the "Total Permits Issued" for the calendar year, this is the number of permits placed into 'Closed', 'Expired', 'Abandon', or 'Finaled' status .

"Permits Closed but Not Finaled" means of the "Permits Completed" for the year, this is the number of those permits placed by procedural policy into 'Closed', 'Expired', or 'Abandon' status .

"Final "Final" Insp." represents the number of inspections completed that calendar year that caused the permits to be placed into "Finaled" status or milestone. The permits were not necessarily issued that year.

"All other Insp." represents the number of inspections completed that calendar year that did not result in a ""Finaled" status or milestone. The permits were not necessarily issued that year.

"Total Inspections" represents the total (Finals and Others) number of inspections completed that calendar year. The permits were not necessarily issued that year.

Electrical Permits Issued Summary

Issued from 1/1/2023 to 4/4/2023

ELE Permit Type	New Structure or Existing and/or Other Assoc. Items	Number of Permits Issued	% of Permit Type	% of Total
Multi-Family Dwelling	Existing Building or Other Items	504	91.47%	1.99%
	New Building	47	8.53%	0.19%
	Total	551		2.17%
Non-Dwelling	Total	5,996		23.64%
One-Family Dwelling	Existing Dwelling or Other Items	13,537	89.24%	53.37%
	New Dwelling	1,632	10.76%	6.43%
	Total	15,169		59.81%
One-Family Home (Homeowner Issued Permit)	Existing Home or Other Items	1,421	87.34%	5.60%
	New Home	206	12.66%	0.81%
	Total	1,627		6.41%
Technology Systems	Total	241		0.95%
Transitory (Carnival, etc.)	Total	30		0.12%
Two-Family Dwelling	Existing Building or Other Items	111	91.74%	0.44%
	New Building	10	8.26%	0.04%
	Total	121		0.48%
Utility Load Management Device	New Device	628	38.55%	2.48%
	Replacement Device	1,001	61.45%	3.95%
	Total	1,629		6.42%
Total		25,364		

Issued Electrical Solar Permits Summary

Issued from 1/1/2023 to 4/4/2023

Permit Type Type of Dwelling or Non-Dwelling	Permit Variant New or Existing	Solar Systems Grouped by Size	No of permits	Percentage of Group	Solar Systems Grouped by Size	No of permits	% of Total
Multi-Family Dwelling			5	0.63% Of Total	10K or <	486	61.44%
	Existing Building or Other Items		4	80.00% of Type	10K to 40K	217	27.43%
		10K to 40K	2	50.00% of Variant	40K to 1 meg	21	2.65%
		Unknown	2	50.00% of Variant	Not Given	1	0.13%
	New Building		1	20.00% of Type	Unknown	66	8.34%
		40K to 1 meg	1	100.00% of Variant	Total	791.00	
Non-Dwelling			61	7.71% Of Total	Solar Systems Grouped by Size	Watts	% of Total
	Non-Dwelling		61	100.00% of Type	10K or <	2,615,848	14.51%
		10K or <	12	19.67% of Variant	10K to 40K	3,871,506	21.47%
		10K to 40K	28	45.90% of Variant	40K to 1 meg	11,542,890	64.02%
		40K to 1 meg	13	21.31% of Variant	Not Given		0.00%
		Unknown	8	13.11% of Variant	Unknown	Unknown	
				Total	18,030,244		
One-Family Dwelling			706	89.25% Of Total	Average	24,904	
	Existing Dwelling or Other Items		693	98.16% of Type			
		10K or <	457	65.95% of Variant			
		10K to 40K	176	25.40% of Variant			
		40K to 1 meg	6	0.87% of Variant			
		Not Given	1	0.14% of Variant			
		Unknown	53	7.65% of Variant			
	New Dwelling		13	1.84% of Type			
		10K or <	5	38.46% of Variant			
10K to 40K		7	53.85% of Variant				
				Unknown	1	7.69% of Variant	
One-Family Home (Permit Issued to Homeowners)			19	2.40% Of Total			
	Existing Home or Other Items		16	84.21% of Type			
		10K or <	9	56.25% of Variant			
		10K to 40K	4	25.00% of Variant			
		40K to 1 meg	1	6.25% of Variant			
		Unknown	2	12.50% of Variant			
	New Home		3	15.79% of Type			
		10K or <	3	100.00% of Variant			
Total			791				

RFI 23-01 Tim Kunkel Electric

Board of Electricity
c/o Department of Labor and Industry
443 Lafayette Road North
St. Paul, MN 55155-4344
www.dli.mn.gov

Board of Electricity Request for Interpretation

Name of submitter	Date	Rule(s) to be interpreted (e.g., Mn Rule Part 3801.XXXX, subpt. XX):		
Tim Kunkel	03/09/2023	NEC 210.11 (C) (1-4)		
Company Name	Phone number	Email address		
Tim Kunkel Electric L.L.C.	(651) 353-1072	tim@timkungelectric.com		
Mailing address	City or Township	State	Zip	
1838 Laurel Avenue	Saint Paul	MN	55104	

The National Electrical Code (NEC) is available at

<https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=70>

Has a request for interpretation been submitted to Minnesota Department of Labor and Industry (DLI) staff, either as a verbal request or a written request? Yes No

- If "No," contact DLI staff at 651-284-5820. DLI staff are responsible for administration and initial interpretation of the National Electrical Code. All requests must first be processed by DLI and provided with a staff interpretation before being referred to the Board of Electricity. This form is intended to be used to request an interpretation from the Board of Electricity only as a resolution of dispute with DLI interpretation.

Code Section(s) to be interpreted (e.g., 20XX NEC, Ch XX, § XXX.XX):	Date interpretation was first requested:	Name of DLI staff member who provided interpretation:
2020 NEC 210.11 (C) (1-4)	03/05/2023	Dean Hunter <small>Chief Electrical Inspector-State of MN</small>

Provide a copy of the DLI interpretation with this request (a copy must be provided as reference).

Is there a dispute with a local Inspector or other official?	If Yes, provide the name and type of official:
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Dean Hunter <small>Chief Electrical Inspector-State of MN</small>

Describe the circumstances underlying the initial dispute:

SEE STATEMENT A

Explain why you disagree with the interpretation given to you by DLI staff:

SEE STATEMENT B

Provide and explain your interpretation of the relevant Code section or Rule part's language:

I believe that the 2020 NEC as adopted tells us that we must provide a 20 ampere rated branch circuit to supply garage receptacles with no exception or consideration to the garage being "new" or "replacement". I believe that there is no legal method to provide that 20 ampere garage circuit when the existing branch circuit or feeder has a maximum rating of 15 amperes.

Provide any additional information you would like the Board to consider:

I requested this first from DLI and now from the board in the hopes that we can find a path forward where all contractors and the public are aware of the requirements of the NEC as adopted, that when interpretations are made they be published. And ultimately that we are enforcing the minimum requirements set by the NEC. And that if we are deciding that certain sections should not apply in our state that a formal process for the public to submit proposed changes be enacted.

Information regarding submitting this form:

- Submit this form and any supporting documentation to be considered electronically to DLI.CCLDBOARDS@state.mn.us or mail to Board of Electricity, c/o CCLD, Department of Labor and Industry, 443 Lafayette Road North, St. Paul, MN 55155.
- Once your Request for Interpretation form has been received, it will be assigned a file number. Please reference this file number on any subsequent correspondence and supplemental submissions.

Information for presentation to the Board:

- You will be notified with the date of the Board Meeting in which your Request for Interpretation will be heard.
- Please limit presentations to 10 minutes or less.
- Be prepared to answer questions regarding the Code Section/Rule Part at issue and the circumstances that led to the dispute.

What you can do if you disagree with the Board's determination:

- You may appeal the Board's final determination pursuant to Minnesota Statutes §326B.127, subd. 5 (2020).

For assistance or questions on completing this form, please call 651-284-5820.

This material can be made available in different forms, such as large print, Braille, or on a tape. To request, call 1-800-342-5354.

Office Use Only

RFI File No.	Date Received by DLI	Dated Received by Board	Date of Board Meeting
23-01	3/9/2023	4/11/2023	4/11/2023
Title of RFI	By:		
RFI 23-01.Tim Kunkel Electric	2020 NEC 210.11 C		

ATTACHMENT A

On March 3, 2023 a past customer of mine asked my opinion regarding a garage that she was considering contracting out to build. One garage contractor informed her that because the footprint of the garage was increasing in size she would have to wire it to the 2020 NEC-including but not limited to 210.11 (C)(4), she also had another garage contractor inform her that “The code was changed in 2017-I fought the code change with the state and overturned the rule by the NEC-you DO NOT need more power in your garage unless it is requested by you-see below”. The “see below” as referenced in the previous line refers to an email between Joe Slavec of Minneapolis Garage Builders, LLC and John Williamson of the DLI (at that time) with Dean Hunter and Marty Kumm-both at the time and currently with the DLI. This email exchange dated 04/23/2019 will be attached as “Attachment A” and referenced.

At a minimum-verbally in both state and local inspection areas the opinion as stated by various inspectors has-to my shop been that if the footprint of the garage increases current NEC must be met in it's entirety. And if the footprint of the garage does NOT increase-we would only have to install a disconnect switch, and from that disconnect switch install a 14 gauge wiring method for lighting, and a 12 gauge wiring method for the garage receptacles. This, to the best of my knowledge is how it has been applied throughout both the state and local inspection areas since 2017. This is in my opinion a deviation from the code as written and adopted-but one that I believed had been applied evenly and fairly to all contractors in the state.

John Williamson in his email (Attachment A) says the following

“The email that I wrote on July 24, 2017 does not take into consideration the physical size of the replacement garage. Quite honestly I didn't give that any thought because the physical size of the garage does not relate to the electrical code. What matters is the connected electrical load in the replacement garage.”

and also

“As an example, if an old one-car garage is replaced by a new two-car garage, it's likely that an existing 15-ampere or 20-ampere branch circuit could safely handle the connected electrical load in the new replacement garage. The typical connected load in a new detached garage would be one wall switch-controlled lighting inside the garage, and one wall switch-controlled lighting outlet on the exterior side of the entry door (not the vehicle door). Even though the code requires at least one receptacle outlet for each vehicle bay, the receptacle outlets themselves do not constitute an electrical load (an electrical appliance plugged into the receptacle would be the electrical load). You could have ten receptacle outlets on a branch circuit and it does not add any electrical load to the circuit.”

In reading this email between Mr's Slavec and Williamson I came to the realization that I did not know or understand what the state's official position was on this matter. And at that time (03/05/2023) I reached out to Mr. Williamson for clarification. I was unaware that Mr. Williamson was no longer with the DLI and ended up getting a response from Mr. Dean Hunter- this email exchange will be attached in full (redacting my customer's name and email address) as “Attachment B”. The following are quotes from that email which I believe are to be attributed to John Williamson in an email referenced that I do not have in my possession and date unknown.

“The underground electrical supply to a garage and the wiring in the garage are two separate things to consider:

- New Garage:** For a brand new garage, both the garage and the underground electrical supply to the garage need to comply with all provisions in the current NEC.; no debate on that one.

•**Replacement Garage:**For a replacement garage, the garage itself would be required to be wired in accordance with the current NEC; the existing underground electrical supply to the garage can be re-used if it's in good working condition and good physical condition, it's sized correctly for the electrical load in the garage, it has proper overcurrent protection and so on; generally, the existing underground electrical supply would not need to be brought up to code at this time; however, there could be circumstances that would warrant upgrading the underground electrical supply; the licensed electrical contractor is responsible for making an assessment for any existing electrical wiring that will be re-used.

•**Existing Garage:**If the underground electrical supply to an existing garage were to fail (e.g. rodent damage, damage from planting a tree, etc.), the replacement of the underground electrical supply to the garage with new electrical wiring would have to comply with the current NEC (alternatively, it might only need to be repaired); there is nothing in the NEC that would require the existing electrical wiring in the garage to be brought up to current code; that would be the owner's choice."

I then asked Mr. Hunter for clarification on if a garage with a larger footprint was a "new" or a "replacement" garage. This is Mr. Hunter's response.

"In my opinion, if it is not the same size - it is not a replacement."

This statement seems to be in direct conflict with Mr. Williamson's response dated 04/23/2019. To compare I will put both quotes side by side for comparison.

Mr. Williamson 04/23/2019

"Quite honestly I didn't give that any thought because the physical size of the garage does not relate to the electrical code."

Mr. Hunter

"In my opinion, if it is not the same size - it is not a replacement."

To summarize, the initial confusion/dispute is multifold

1. If a garage is built where one previously existed-and is INCREASED in footprint size, is this newly constructed garage to be considered a "new" or a "replacement" garage.

2. In the case of “new” garages it appears that we all agree, that all relevant sections of the current NEC would apply-including a 20 amp circuit for garage receptacles.

In the case of “replacement” garages however, my company, and other electrical contractors need to understand if the 20 amp circuit for garage receptacles is required?

3.a If a 20 amp circuit is required can we accomplish that in some manner while still utilizing an existing 15 amp/14 gauge feeder or branch circuit from the house to the garage? I feel that answer is obviously no, but as you will see that does not seem to be the universal answer.

STATEMENT B

After my initial confusion with Mr. Hunter's statement contradicting earlier statement's made by Mr. Williamson. I reached out by telephone to Mr. Hunter. We had a short conversation at which time I stated that I had concerns regarding the seemingly contradictory statements from the DLI regarding the definitions and requirements related to "new" and "replacement" garages. I referenced a statement made by Mr. Williamson in his email dated 04/23/2019. After some initial confusion on Mr. Hunter's part as to which email I was referencing I offered to send him what I had. This new email exchange will be attached as "Attachment C" and began on 03/05/2023.

Mr. Hunter read the email I forwarded while I was on the phone with him, and at that time it seemed clear that he was unsure as to what the position would be. I felt that rather than demand answers immediately that it would be prudent to allow him to discuss the matter with his office and consider what was being asked. At that time the telephone exchange was ended and email correspondence followed.

I quote the following from Mr. Hunter dated 03/07/2023
"After thinking about this installation, and the discussion around the existing underground installation. I agree with John's email. The requirements in 210.11(C)(4) address the garage wiring and the required branch circuits. The language does not cover the existing electrical supply to the building. In my opinion, the circuit can be re-used if it is correctly sized to safely handle the connected electrical load (in amperes) in the replacement garage regardless of the footprint. At the end of the day, the assumption would be that there is not be an electrical safety issue because the existing feeder or branch circuit supplying the garage would be properly protected at its ampacity.

The department will continue to enforce the minimum requirements in 210.11(C)(4), however, will not require an existing underground cable to be changed unless additional electrical loads are in excess of the existing electrical supply."

210.11(C)(4) of the 2020 NEC states

"Garage Branch Circuits. In addition to the number of branch circuits required by other parts of this section, at least one 120-volt, 20-ampere branch circuit shall be installed to supply receptacle outlets required by 210.52(G)(1) for attached garages and in detached garages with electric power. This circuit shall have no other outlets."

If the department will not require an upgrade to an existing 15 amp branch circuit or feeder line from the house to the garage how can it possibly be enforcing the minimum requirements of 210.11(C)(4)? Only 15 amps is available at the garage-in my opinion there is no way to meet the 20 amp branch circuit requirement without also upgrading the existing branch circuit or feeder (or installing a new service to the garage separate from the house). I presented that question to Mr. Hunter in my email dated 03/07/2023 and quoted below.

"How are we to comply with providing a 20 amp circuit for receptacles if the existing branch circuit is 15 amps?"

Mr. Hunter's response is as follows

"As I stated. What is the hazard if the existing branch circuit is properly protected at its ampacity. Because it is a 20 amp circuit, we are not to assume there will be 20 amps of load. Even though the code requires at least one receptacle outlet for each vehicle bay, the receptacle outlets themselves do not constitute an electrical load (an electrical appliance plugged into the receptacle would be the electrical load). If the load is such to where it continues to trip the existing feeder or branch circuit breaker, then the load is too much for the existing circuit and should be upgraded."

And my response back as follows

"Dean, if the existing circuit from the house to the garage is a 15 amp branch circuit we cannot provide a 20 amp circuit. We can provide 12 gauge wiring but that in and of itself does not make it a 20 amp circuit. "

What I was looking for was clarification on what the state felt a code compliant method for meeting 210.11(C)(4) while also retaining an existing 15 amp feeder or branch circuit was. The response from Dean is as follows.

"If you have concerns, put in a feeder panel with breakers – then it would be "technically" legal."

The above quotes are taken from emails exchanged between myself and Dean Hunter and continue for many emails. I will allow the board to read the rest themselves, and at this point state what I see as the problem, and as what needs to be ruled on.

1. There have been contradictory statements made to various contractors by representatives of DLI. When applying code or law we must all be in agreement that these things need to be made uniformly across the board. In providing contradictory and unclear instructions the DLI created an unfair advantage for certain contractors depending on which opinion they received from DLI-and as I have shown, at times from the same PERSON at DLI. When a code issue is brought forth to the DLI and an interpretation is made, that interpretation should be made public for all contractor's and all other relevant parties to understand. If an interpretation is made it must be made public pursuant to MN state statute 326B.127 Subd. 5 within 10 business days.

2. If the state is choosing to treat this as “interpretation” of 210.11(C)(4)-that no upgrade to the existing branch circuit or feeder is necessary unless a load calculation shows otherwise, then we cannot ignore 210.11(C)(1)-210.11(C)(3).

210.11(C)(3) and 210.11(C)(4) read remarkably similar.

If the state chooses to “interpret” 210.11(C)(4) as not requiring any upgrade to an existing branch circuit or feeder than I see no reason that it would not also be applied to items 210.11(C)(1)-210.11(C)(3).

This would allow my company and other contractor’s to engage in bathroom remodels while leaving the existing 15 amp circuit in place so long as the original install was performed prior to 1996 I believe.

This would allow my company and other contractors the ability to extend 15 amp kitchen circuits (pre-1959) as long as we utilized a 12 gauge wiring method for our extensions.

I am asking for a clear and definitive answer-if a 15 amp branch circuit can be utilized to a garage while still somehow complying with 210.11(C)(4), can we also apply that logic to 210.11 (C)(1-3)?

3. If the state chooses to continue it’s allowance of passing garage projects and ignore 210.11(C)(4), we must see that as a de-facto code change and as such I would like the state’s formal process to submit other changes to the electrical code at the state level.

4. Please describe what the state intends to allow to comply with 210.11(C)(4) while retaining a 15 amp branch circuit or feeder.

Will we-as Dean stated be allowed to install a small subpanel-treating the existing 15 amp circuit as a feeder and then install a 20 amp circuit breaker in that panel and say that technically meets the code requirements? And if that “technically” meets the code requirements what doesn’t?

Or will it be as described and as wired all over the state be that we can intercept the existing 15 amp circuit, install a disconnect switch, and then run a 14 gauge wiring method to the lighting and a 12 gauge wiring method to the receptacles? This option seems to be a clear amendment or change to the NEC and may have vast implications throughout the rest of the code that are not being considered.

Will it be some other method that is not apparent to either myself or Dean Hunter?

ATTACHMENT A

Email exchange between Joe Slavec and John Williamson dated 04/23/2019

From: Williamson, John (DLI) <john.williamson@state.mn.us>
Date: Tue, Apr 23, 2019 at 5:46 PM
Subject: RE: Garage questions
To: Joe Slavec <mplsgarage@gmail.com>
Cc: Hunter, Dean (DLI) <dean.hunter@state.mn.us>, Dudley, Steven (DLI) <steven.dudley@state.mn.us>, Kumm, Marty (DLI) <marty.kumm@state.mn.us>

Hi Joe,

The email that I wrote on July 24, 2017 does not take into consideration the physical size of the replacement garage. Quite honestly I didn't give that any thought because the physical size of the garage does not relate to the electrical code. What matters is the connected electrical load in the replacement garage.

As noted in the second bullet point in the July 24 email, the existing electrical supply can be re-used if it is correctly sized to safely handle the connected electrical load (in amperes) in the replacement garage (along with proper overcurrent protection and other safety criteria mentioned below).

As an example, if an old one-car garage is replaced by a new two-car garage, it's likely that an existing 15-ampere or 20-ampere branch circuit could safely handle the connected electrical load in the new replacement garage. The typical connected load in a new detached garage would be one wall switch-controlled lighting inside the garage, and one wall switch-controlled lighting outlet on the exterior side of the entry door (not the vehicle door). Even though the code requires at least one receptacle outlet for each vehicle bay, the receptacle outlets themselves do not constitute an electrical load (an electrical appliance plugged into the receptacle would be the electrical load). You could have ten receptacle outlets on a branch circuit and it does not add any electrical load to the circuit.

If the property owner elected to have additional electrical loads installed in or on the garage (additional lighting, garage door opener(s), workshop equipment, etc.), and those additional electrical loads are in excess of the existing electrical supply, the existing electrical supply would obviously need to be upgraded.

I hope this is helpful.

I would be happy to meet anytime to have a discussion.

John

p.s. I know I've provided this before, but as code officials we cannot lose sight of our statutory mandate, and that is to enforce the codes, which are basic, uniform and reasonable, and to do so with a focus on safety. We have to periodically remind our own inspectors about the "Policy and Purpose" of the code, especially in situations where an inspector might take an overzealous stance and exceed the authority granted in statute. In my opinion, and it's just my personal opinion, but when code officials exceed their statutory authority they, or

more importantly their employer, bears the burden, responsibility, ramifications, liability, costs and other factors associated with exceeding their authority. We have to walk a very fine line every day!



Tim Kunkel <tim@timkungelectric.com>

Garages

4 messages

Tim Kunkel <tim@timkungelectric.com>

Sun, Mar 5, 2023 at 9:04 AM

To: john.williamson@state.mn.us, Dean Hunter <dean.hunter@state.mn.us>

Hi John and Dean, can you clarify what the rule is for rebuilt garages and adding 20 amp circuits to them? It has been my understanding as described by various inspectors that if the footprint of the garage changes we need to meet current code as written and adopted. But if the footprint remains the same the existing is fine. Is this the accurate portrayal of what the state wants?

--

Tim Kunkel Electric L.L.C.
(651) 353-1072
www.timkungelectric.com

Hunter, Dean (DLI) <dean.hunter@state.mn.us>

Mon, Mar 6, 2023 at 10:44 AM

To: Tim Kunkel <tim@timkungelectric.com>

Cc: "Dudley, Steven (DLI)" <steven.dudley@state.mn.us>, "Kumm, Marty (DLI)" <marty.kumm@state.mn.us>, "Furman, Neil (DLI)" <neil.furman@state.mn.us>, "Higgins, Scott (DLI)" <scott.higgins@state.mn.us>, "Nemeth, Luke (DLI)" <Luke.Nemeth@state.mn.us>, "Hunter, Mark (DLI)" <mark.hunter@state.mn.us>, "Monson, Sheldon (DLI)" <sheldon.monson@state.mn.us>, "Schlie, Wade (DLI)" <wade.schlie@state.mn.us>, "Jespersen, Wayne (DLI)" <wayne.jespersen@state.mn.us>, "Krahmer, Eric (DLI)" <eric.krahmer@state.mn.us>, "Bradbury, Lowell (DLI)" <lowell.bradbury@state.mn.us>, "McNamara, John (DLI)" <john.mcnamara@state.mn.us>, "Moreen, Michael (DLI)" <Michael.Moreen@state.mn.us>

Hello Tim,

Thanks for the email!

John retired over a year ago, so I'll respond...

In the past, we have debated this issue a number of times, and prior to John's departure, he wrote an email to a contractor who had a similar question. I have archived the email for reference and will share an excerpt below. The department's position has not changed.

In short, the replacement garage needs to be wired to the current NEC, however, the existing feeder or branch circuit (old underground or overhead conductors) can remain. I'll explain (with JW's help). 😊

"Except in very limited situations, the National Electrical Code (NEC) does not apply retroactively. There are still countless homes across the U.S. that contain one or more different wiring methods that were installed in the first half of the 1900's. Existing electrical wiring that is in good condition, is fully operational, has not been subject to overloading or physical damage, is large enough to handle the electrical load, is properly protected by overcurrent protection, and so on, can

remain in place. Existing electrical wiring is considered to be in compliance with the NEC that was in effect at the time of the original installation.

(I've been in homes that had several different types of wiring methods, from several different decades, still in good working condition: open knob-and-tube wiring, cloth-covered nonmetallic-sheathed cable, armored metal cable, electrical metallic tubing, flexible metal conduit, and modern plastic-sheathed nonmetallic cable).

The underground electrical supply to a garage and the wiring in the garage are two separate things to consider:

- **New Garage:** For a brand new garage, both the garage and the underground electrical supply to the garage need to comply with all provisions in the current NEC.; no debate on that one.
- **Replacement Garage:** For a replacement garage, the garage itself would be required to be wired in accordance with the current NEC; the existing underground electrical supply to the garage can be re-used if it's in good working condition and good physical condition, it's sized correctly for the electrical load in the garage, it has proper overcurrent protection and so on; generally, the existing underground electrical supply would not need to be brought up to code at this time; however, there could be circumstances that would warrant upgrading the underground electrical supply; the licensed electrical contractor is responsible for making an assessment for any existing electrical wiring that will be re-used.
- **Existing Garage:** If the underground electrical supply to an existing garage were to fail (e.g. rodent damage, damage from planting a tree, etc.), the replacement of the underground electrical supply to the garage with new electrical wiring would have to comply with the current NEC (alternatively, it might only need to be repaired); there is nothing in the NEC that would require the existing electrical wiring in the garage to be brought up to current code; that would be the owner's choice.

Code authorities would always like to see everything brought up to current code, but that is not reasonable. The [State Building Code](#) (which includes the electrical code) is a minimum standard. Enforcement of "the code" has to be reasonable and at the least possible cost consistent with recognized standards of health and safety.

We will share this email conversation with all of our field reps and contract electrical inspectors so they are all on the same page. We will also look at updating the [2017 NEC Frequently Asked Questions bulletin](#) on our website regarding this topic."

Let me know if you have any further questions. I have cc'd my team on the email so we are all reminded of the position.

Take care~

Dean

From: Tim Kunkel <tim@timkungelectric.com>
Sent: Sunday, March 5, 2023 9:05 AM
To: john.williamson@state.mn.us; Hunter, Dean (DLI) <dean.hunter@state.mn.us>
Subject: Garages

This message may be from an external email source.

Do not select links or open attachments unless verified. Report all suspicious emails to Minnesota IT Services Security Operations Center.

[Quoted text hidden]

Tim Kunkel <tim@timkungelectric.com>
 To: "Hunter, Dean (DLI)" <dean.hunter@state.mn.us>

Mon, Mar 6, 2023 at 4:27 PM

Is a garage with a larger footprint a "new " garage or a "replacement" garage. This seems to be an odd interpretation of this, but we will follow the state's lead so long as it's going to be interpreted the same across the board with the inspections departments

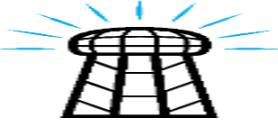
[Quoted text hidden]

Hunter, Dean (DLI) <dean.hunter@state.mn.us>
 To: Tim Kunkel <tim@timkungelectric.com>

Mon, Mar 6, 2023 at 4:39 PM

In my opinion, if it is not the same size - it is not a replacement.

[Quoted text hidden]



Tim Kunkel <tim@timkungelectric.com>

Re: Existing Garage electric

Hunter, Dean (DLI) <dean.hunter@state.mn.us>
To: Tim Kunkel <tim@timkungelectric.com>

Thu, Mar 9, 2023 at 10:20 AM

Hello Tim,

This is my last email. If you honestly believe that the department is misinterpreting the NEC - then bring it to the Board of Electricity. This is the way existing wiring has been addressed in the state for decades.

Dean

From: Tim Kunkel <tim@timkungelectric.com>
Sent: Thursday, March 9, 2023 9:55 AM
To: Hunter, Dean (DLI) <dean.hunter@state.mn.us>
Subject: Re: Existing Garage electric

By this logic I can start utilizing 15 amp kitchen circuits installed prior to 1959 and simply run 12 gauge wiring from that point to my new receptacles. The load calculation is still 1500va per SABC which keeps me well within the capabilities of a 15 amp OCPD. Is this really the direction the state intends to go here?

I still have not heard an answer as to how I shall comply with 210.11 (C) (4) unless the state is disregarding/changing the requirement for a minimum 20 amp branch circuit. If we can disregard that requirement for 210.11 (C) (4) then we can also clearly disregard that for 210.11 (C) 1-3, that seems like an odd position to take here Dean. And this really illustrates why so many people need to be involved with these decisions-seemingly small changes or "interpretations" can have far reaching implications, but even more importantly that when these decisions are made at the state level that you INFORM the public that it affects. I stand firmly to my opinion that we cannot meet the requirement of 210.11 (C) (4) without some local amendment stating otherwise, however, IF the state is firm to the position that no alteration needs to be made to the existing feeder or branch circuit unless added load necessitates it then I would appreciate you letting the state and local inspections teams be aware that we will be legally wiring kitchens and adding kitchen receptacles in the same manner where the existing is believed to be pre-1959.

Sent from my iPhone

On Mar 9, 2023, at 9:30 AM, Hunter, Dean (DLI) <dean.hunter@state.mn.us> wrote:

Tim-

Thanks for the responses. As I have detailed - we are not amending the NEC.

Again, the illustration for the 15 amp feeder was to prove that the existing conductor supplying the garage (based on the load) is not unsafe. Many times over the years we have dealt with insurance companies, and contractors, regarding existing installations. For instance, if there is a home that has fire damage, we only upgrade the wiring that needs to be replaced due to the actual fire. In this situation, now let's say the rest of the drywall in the home was removed due to smoke damage, and the exposed wiring is not altered or extended. We would not require those parts of the home to be upgraded even though they were exposed. It is assumed that the other circuits that were not damaged throughout the house were NEC compliant at the time of installation. Same thing applies here - because you have added onto the building, or reconstructed it, doesn't mean that you need to upgrade the existing feeder/branch circuit wiring unless the load changes to warrant the increased ampacity.

As I mentioned, if it helps matters, when time allows, I will put together a bulletin on this topic and post it on the website.

Dean

From: Tim Kunkel <tim@timkunkelelectric.com>
Sent: Thursday, March 9, 2023 8:48 AM
To: Hunter, Dean (DLI) <dean.hunter@state.mn.us>
Subject: Re: Existing Garage electric

Dean, my entire point through all of this has been that I do not see any way to meet the requirements of 210.11 (C) (4) with the OCPD at the house being 15 amps. That brought us to your statement that technically a 15 amp feeder to a panel in the garage would be legal.

The state is saying that 210.11 (C) (4) MUST be met regardless of the garage being new or a replacement. The only compliant method for that being proposed in this situation is the subpanel with a 20 amp circuit breaker being installed. That being said-when we start seeing these garages that were built by Mr. Slavec I can reasonably expect to see that subpanel and 20 amp branch circuit correct? Because if not I haven't received any other answer as to how that can be compliant unless the state has de facto amended the NEC in some way-which you have clearly stated it has not.

If the state wants to amend 210.11 (C) (4) to provide a way to run the receptacles in a garage with 12 gauge wiring, and disregard the 20 amp circuit breaker being required then that is fine, however IF that is the case then I want to know the formal process to submit amendments at the state level.

-Tim

Sent from my iPhone

On Mar 9, 2023, at 8:07 AM, Hunter, Dean (DLI) <dean.hunter@state.mn.us> wrote:

Hello Tim,

Sorry you feel that way.

We are not changing our position - that is what the NEC says! This is not “my” interpretation. This discussion is not about whether the garage is new or not. Regardless of the footprint the garage, the replacement garage needs to be wired in accordance with 210.11(C)(4). This discussion is about the existing branch circuit or feeder supplying the garage – not the minimum required garage branch circuits.

I am busy with other issues right now, but will do a formal “existing garage feeder/ branch circuit” bulletin for the website when I get a chance.

Dean

From: Tim Kunkel <tim@timkungelectric.com>
Sent: Thursday, March 9, 2023 7:44 AM
To: Hunter, Dean (DLI) <dean.hunter@state.mn.us>
Subject: Re: Existing Garage electric

Dean, the garage builder did have an unfair advantage. The rest of us were told that if a garage increased in size that the trench would be required. This is why no one has bothered asking-all of us understood the simple solution/compromise that a “replacement” garage was the same footprint and a “new” garage altered that footprint. A “new” garage would be required to meet current NEC requirements. Joe Slavec was told something different in an unpublished interpretation, and as such had an unfair advantage.

As far as practicality goes there are plenty of things that are impractical and do not save money but we aren't willy nilly ignoring those.

I am asking for an official interpretation of this. If the state feels a feeder can be sized lower than a required minimum size branch circuit breaker, then we can apply it accordingly. If that is not accurate, then I feel a mistake was made in 2017 and it's time to correct it.

I am also asking for an official answer regarding what is “new” and what is a “replacement”. I cannot apply the code correctly if things are not accurately defined.

-Tim

Sent from my iPhone

On Mar 9, 2023, at 7:31 AM, Hunter, Dean (DLI) <dean.hunter@state.mn.us> wrote:

RFI 23-01 Tim Kunkel Electric

Good morning Tim,

Thank you for the email.

I would like to comment on “it appears though that the state feels that is the case”. This discussion was regarding an existing feeder/branch circuit to a garage and my example showed the “technical” reading of the NEC and the fact that smaller wire supplying the garage is a separate matter - as John pointed out.

Regarding your comment - “the state feels that is the case” - as I pointed out, it is how the NEC is written. As you know, it is not practical to trench a 14/2 to garage, set a panel, use breakers or fuses, drive two ground rods, etc., and think you are saving time and money. Please keep this email in context – we are talking about an existing branch circuit to a garage, not a new garage because we both know that a new installation is a different story. In fact, since John wrote that email over 3-years ago, this is the first time anyone has asked this question.

If you recall, this discussion started because you believed that the garage builder had an unfair advantage. I just wanted to show you that in this situation, there was no unfair advantage, and there different ways one can apply the NEC.

Take care~

Dean

From: Tim Kunkel <tim@timkunkel.com>
Sent: Wednesday, March 8, 2023 7:06 PM
To: Hunter, Dean (DLI) <dean.hunter@state.mn.us>
Subject: Re: Existing Garage electric

Dean, thank you for your email. It brings up quite a few good points that I hadn't considered. And actually opens up quite a few cost saving measures my company can take on behalf of our customers. I had never before considered that the feeder breaker could be smaller than a required branch circuit size-it appears though that the state feels that is the case. By that logic I can save a

ton of material on kitchen remodels by running a 14-3 to a small 2-circuit panel and then feed my 2 required 20 amp SABC's from that (each calculated at 1500va as provided in 220.52(A)-that could be a substantial cost saving measure. I also had not considered that I could just trench a 14-2 to a garage and set a panel to cover the 15 amp lighting circuit, and the 20 amp receptacle circuit. Seeing this the way the state reads it is actually very helpful-thank you. If you don't have any corrections to any of this then I guess I'm set and just didn't consider what the code actually read.-I will put forth these cost saving measures to my customers with an optional line item to wire it the way I used to feel was correct and let the consumer choose.

-Tim

On Wed, Mar 8, 2023 at 3:36 PM Hunter, Dean (DLI)
<dean.hunter@state.mn.us> wrote:

Hello Tim,

Thanks for the email! I understand that you have concerns with the response that John provided to the garage builder (Joe) back in 2017, and 2018. In my opinion, when dealing with an **existing** installation - two points could be made:

#1. The installation utilizes an existing branch circuit or feeder.

(from JW's email)

“Except in very limited situations, the National Electrical Code (NEC) does not apply retroactively. There are still countless homes across the U.S. that contain one or more different wiring methods that were installed in the first half of the 1900's. Existing electrical wiring that is in good condition, is fully operational, has not been subject to overloading or physical damage, is large enough to handle the electrical load, is properly protected by overcurrent protection, and so on, can remain in place.”

The supply conductors to a garage, and the garage itself, are two different topics for consideration. A good comparison could be a remodeling project in an older home. A 1955 rambler could be completely remodeled and updated to the current electrical code without adding any actual “electrical load” to the **existing** 60-amp service. In other words, the **existing** 60-amp rated supply conductors might have sufficient capacity to handle the connected load.

#2. I would not promote the use of a 15 amp circuit to be extended to a garage, however, you can see in the calculation provided that it might be possible. Technically, as I mentioned in my email, knowing a feeder circuit is calculated based on Article 220, the end result may be that the feeder is below 20 amps.

Remember, prior to the 2023 NEC, there was no calculation for the garage itself (220.11). So, to prove my point, I will provide an example based on the 2023 NEC (220.5).

A 24 x 24 garage (assuming it was a single car made into a two car garage)

$24 \times 24 = 576$ square feet $\times 3$ VA per square foot = 1728 VA / 120 volt circuit – 14.4 amps.

Based on the math, the feeder to the garage could be 15 amps and the contractor could supply a 2 circuit panelboard, or only a single circuit panelboard for a single garage (new exception). Because it is a feeder, the NEC (250.32(A)) would require a grounding electrode system, and the branch circuits would be installed according to 210.11(C)(4).

In summary, because this is an existing installation, we have no authority to require the **existing** installation to be brought up to the current NEC. In addition, the calculated load as mentioned in the example - could be an argument for the feeder even in a new installation. Remember the NEC is a minimum standard - any contractor can exceed the minimum standard!

As stated in 90.2(B) Adequacy. This Code contains provisions that are considered necessary for safety. Compliance therewith and proper maintenance result in an installation that is essentially free from hazard but not necessarily efficient, convenient, or adequate for good service or future expansion of electrical use.

The department is not amending the NEC, and any electrical contractor can contact the office with questions regarding installations.

Dean

Dean Hunter

Chief Electrical Inspector

Minnesota Department of Labor and Industry RFI 23-01 Tim Kunkel Electric
443 Lafayette Road N., St. Paul, MN 55155
Phone: Office (651) 284-5314 Cell (218) 770-1263| Web:
www.dli.mn.gov



Approval as a result of an inspection shall not be construed to be an approval of a hidden, concealed, undetected or other violation of the provisions of the code or of the laws and rules of the state. Electrical inspections only include readily accessible systems and components. Latent and concealed defects, deficiencies and violations are excluded from inspections.

If you are not the intended recipient of this message, or the person responsible for delivering it to the intended recipient, please notify the sender immediately by replying to this message. Destroy all copies of this message and any attachments.

From: Tim Kunkel <tim@timkungelectric.com>
Sent: Tuesday, March 7, 2023 5:47 PM
To: Hunter, Dean (DLI) <dean.hunter@state.mn.us>
Subject: Re: Garage electric

Dean, my primary concern here is that the state is choosing to backdoor amend the NEC rather than put it forward to any sort of peer review or process. If the state is amending the code then what is the process for putting forward amendments? I can't even guess as to how many jobs I have bid based on the NEC (unamended), that were bid incorrectly because a garage contractor had different information than I did. It created a completely unfair advantage. The state HAS to pick what they are doing here, are we adopting the NEC with no amendments or are we amending it. What you are describing is fine, I understand the reasoning-but it does not meet the intent or the letter of the law as passed here. It was not a published interpretation and this cannot be how these things go. When I am bidding for jobs, when I am trying to provide work for myself and my employees I need to know that all contractors are playing on a level field-which since at least 2019 we have not been. It is appalling to me that the state made this interpretation to a garage builder without bothering to tell the electrical contractors it affected. I appreciate the open dialogue and willingness to discuss this, but it's time to discuss why the state feels it is ok to amend the code under the guise of it being interpretation-it is clearly a code change here. If the state would like to continue passing the NEC without amendments then these kinds of changes need to be brought forward as the code changes they are, and voted on by the relevant code making panels.

On Tue, Mar 7, 2023 at 9:13 AM Hunter, Dean (DLI) <dean.hunter@state.mn.us> wrote:

RFI 23-01 Tim Kunkel Electric
If you have concerns, put in a feeder panel with breakers – then it would be “technically” legal.

Dean

From: Tim Kunkel <tim@timkungelectric.com>
Sent: Tuesday, March 7, 2023 9:05 AM
To: Hunter, Dean (DLI) <dean.hunter@state.mn.us>
Subject: Re: Garage electric

Dean, if the existing circuit from the house to the garage is a 15 amp branch circuit we cannot provide a 20 amp circuit. We can provide 12 gauge wiring but that in and of itself does not make it a 20 amp circuit.

Sent from my iPhone

On Mar 7, 2023, at 9:03 AM, Hunter, Dean (DLI) <dean.hunter@state.mn.us> wrote:

As I stated. What is the hazard if the existing branch circuit is properly protected at its ampacity. Because it is a 20 amp circuit, we are not to assume there will be 20 amps of load. Even though the code requires at least one receptacle outlet for each vehicle bay, the receptacle outlets themselves do not constitute an electrical load (an electrical appliance plugged into the receptacle would be the electrical load). If the load is such to where it continues to trip the existing feeder or branch circuit breaker, then the load is too much for the existing circuit and should be upgraded.

Dean

From: Tim Kunkel <tim@timkungelectric.com>
Sent: Tuesday, March 7, 2023 8:57 AM
To: Hunter, Dean (DLI) <dean.hunter@state.mn.us>
Subject: Re: Garage electric

How are we to comply with providing a 20 amp circuit for receptacles if the existing branch circuit is 15 amps?

Sent from my iPhone

On Mar 7, 2023, at 8:49 AM, Hunter, Dean (DLI) <dean.hunter@state.mn.us> wrote:

RFI 23-01 Tim Kunkel Electric

Hello Tim,

After thinking about this installation, and the discussion around the existing underground installation. I agree with John's email. The requirements in 210.11(C)(4) address the garage wiring and the required branch circuits. The language does not cover the existing electrical supply to the building. In my opinion, the circuit can be re-used if it is correctly sized to safely handle the connected electrical load (in amperes) in the replacement garage regardless of the footprint. At the end of the day, the assumption would be that there is not be an electrical safety issue because the existing feeder or branch circuit supplying the garage would be properly protected at its ampacity.

The department will continue to enforce the minimum requirements in 210.11(C)(4), however, will not require an existing underground cable to be changed unless additional electrical loads are in excess of the existing electrical supply.

Take care~

Dean

Dean Hunter

Chief Electrical Inspector

Minnesota Department of Labor and Industry

443 Lafayette Road N., St. Paul, MN
55155

Phone: Office (651) 284-5314 Cell (218)
770-1263| Web: www.dli.mn.gov



Approval as a result of an inspection shall not be construed to be an approval of a hidden, concealed, undetected or other violation of the provisions of the code or of the laws and rules of the state. Electrical inspections only include readily accessible systems and components. Latent and concealed defects, deficiencies and violations are excluded from inspections.

If you are not the intended recipient of this message, or the person responsible for delivering it to the intended recipient, please notify the sender immediately by replying to this message. Destroy all copies of this message and any attachments.

From: Tim Kunkel
<tim@timkungelectric.com>
Sent: Monday, March 6, 2023 4:45 PM
To: Hunter, Dean (DLI)
<dean.hunter@state.mn.us>
Subject: Fwd: Garage electric

This message may be from an external email source.

Do not select links or open attachments unless verified. Report all suspicious emails to Minnesota IT Services Security Operations Center.

----- Forwarded message -----

From: Dianne Como
<comodr@usiwireless.com>
Date: Fri, Mar 3, 2023 at 12:52 PM
Subject: Garage electric
To: <tim@timkungelectric.com>

Tim;

Attached is the letter from contractor and John Williamson.

RFI 23-01 Tim Kunkel Electric

Dianne; The code was changed in 2017 - I fought the code change with the State and overturned the rule by the NEC - you DO NOT need more power in your garage unless it is requested by you - see below

From: **Williamson, John**
(DLI) <john.williamson@state.mn.us>
Date: Tue, Apr 23, 2019 at 5:46 PM
Subject: RE: Garage questions
To: Joe Slavec <mplsgarage@gmail.com>
Cc: Hunter, Dean (DLI) <dean.hunter@state.mn.us>, Dudley, Steven (DLI) <steven.dudley@state.mn.us>, Kumm, Marty (DLI) <marty.kumm@state.mn.us>

Hi Joe,

The email that I wrote on July 24, 2017 does not take into consideration the physical size of the replacement garage. Quite honestly I didn't give that any thought because the physical size of the garage does not relate to the electrical code. What matters is the connected electrical load in the replacement garage.

As noted in the second bullet point in the July 24 email, the existing electrical supply can be re-used if it is correctly sized to safely handle the connected electrical load (in amperes) in the replacement garage (along with proper overcurrent protection and other safety criteria mentioned below).

As an example, if an old one-car garage is replaced by a new two-car garage, it's likely that an existing 15-ampere or 20-ampere branch circuit could safely handle the connected electrical load in the new replacement garage. The typical connected load in a new detached garage would be one wall switch-controlled lighting inside the garage, and one wall switch-controlled lighting outlet on the exterior side of the entry door (not the vehicle door). Even though the code requires at least one receptacle outlet for each vehicle bay, the receptacle outlets themselves do not constitute an electrical load (an electrical appliance plugged into the receptacle would be the electrical load). You could have ten receptacle outlets on a branch circuit and it does not add any electrical load to the circuit.

If the property owner elected to have additional electrical loads installed in or on the garage (additional lighting, garage door opener(s), workshop equipment, etc.), and

3/9/23, 7:10 PM

Tim Kunkel Electric Mail - Re: Existing Garage electric

RFI 23-01 Tim Kunkel Electric

those additional electrical loads are in excess of the existing electrical supply, the existing electrical supply would obviously need to be upgraded.

I hope this is helpful.

I would be happy to meet anytime to have a discussion.

John

p.s. I know I've provided this before, but as code officials we cannot lose sight of our statutory mandate, and that is to enforce the codes, which are basic, uniform and reasonable, and to do so with a focus on safety. We have to periodically remind our own inspectors about the "Policy and Purpose" of the code, especially in situations where an inspector might take an overzealous stance and exceed the authority granted in statute. In my opinion, and it's just my personal opinion, but when code officials exceed their statutory authority they, or more importantly their employer, bears the burden, responsibility, ramifications, liability, costs and other factors associated with exceeding their authority. We have to walk a very fine line every day!

--

Tim Kunkel Electric L.L.C.

(651) 353-1072

www.timkungelectric.com

--

Tim Kunkel Electric L.L.C.

(651) 353-1072

www.timkungelectric.com

3/9/23, 7:10 PM

Tim Kunkel Electric Mail - Re: Existing Garage electric

Attachment C

RFI 23-01 Tim Kunkel Electric

--

Tim Kunkel Electric L.L.C.

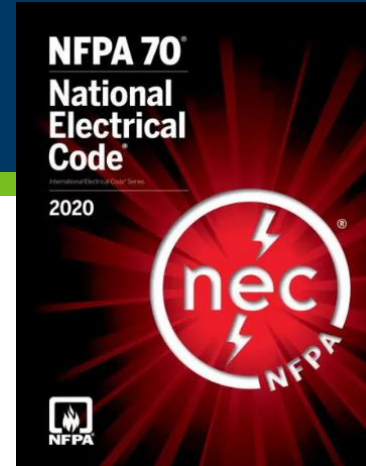
(651) 353-1072

www.timkungelectric.com



210.11(C)(4) Garage Branch-Circuit Requirements

90.1 Purpose.



90.1(A) Practical Safeguarding.

The purpose of this Code is the practical safeguarding of persons and property from hazards arising from the use of electricity. This Code is not intended as a design specification or an instruction manual for untrained persons.

90.1(B) Adequacy.

This Code contains provisions that are considered necessary for safety. Compliance therewith and proper maintenance result in an installation that is essentially free from hazard but not necessarily efficient, convenient, or adequate for good service or future expansion of electrical use.

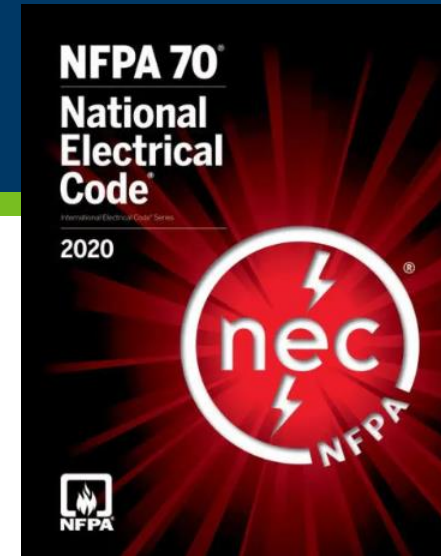
The Electrical Act

326B.36 INSPECTION.

§Subdivision 1.Required inspection.

Except where any political subdivision has by ordinance provided for electrical inspection similar to that herein provided, **every new electrical installation** in any construction, remodeling, replacement, or repair, except minor repair work as the same is defined by rule, shall be inspected by the commissioner for compliance with accepted standards of construction for safety to life and property.

210.11(C)(4) Garage Branch Circuits.



210.11(C)(4) Garage Branch Circuits.

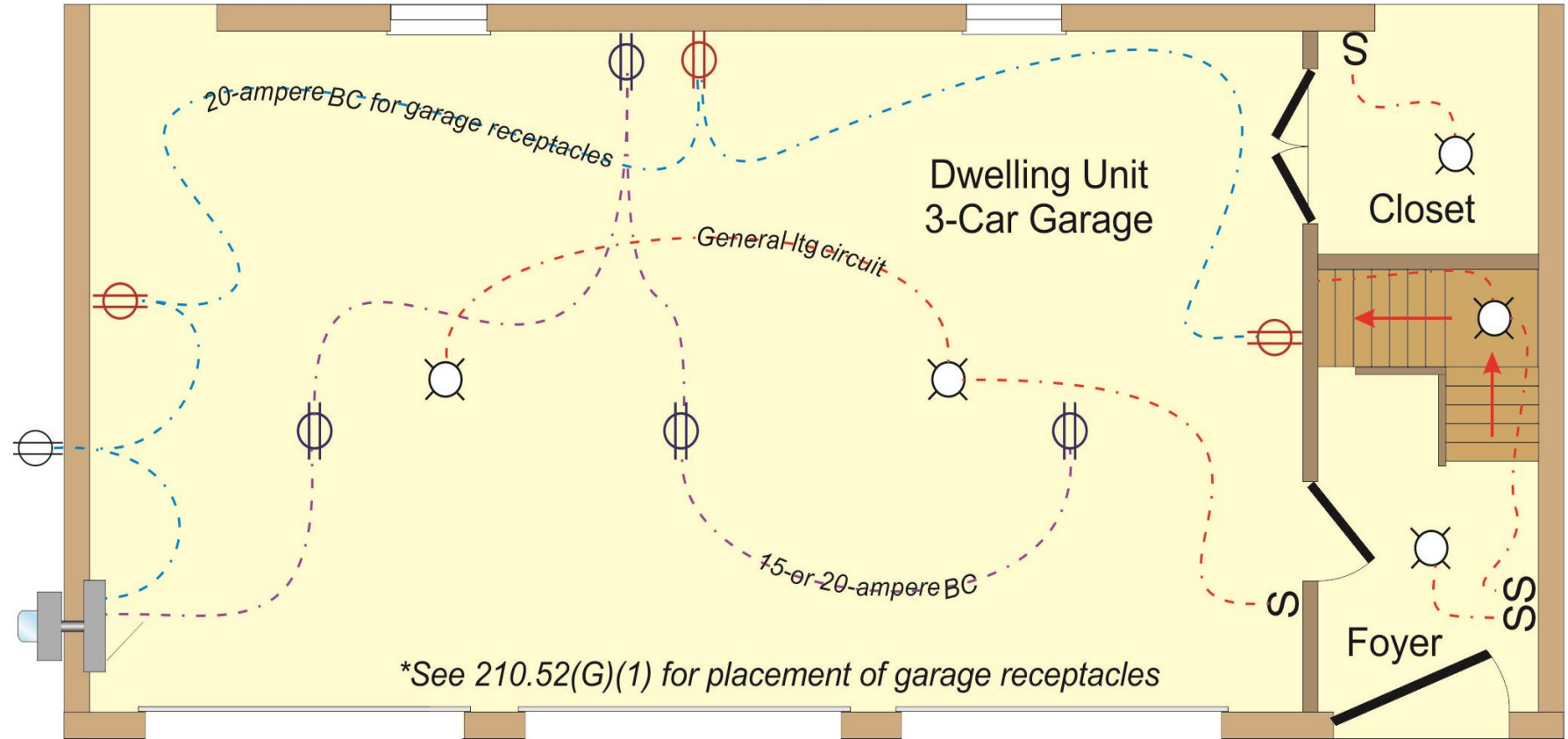
In addition to the number of branch circuits required by other parts of this section, at least one 120-volt, 20-ampere branch circuit shall be installed to supply receptacle outlets required by 210.52(G)(1) for attached garages and in detached garages with electric power. This circuit shall have no other outlets.

Exception: This circuit shall be permitted to supply readily accessible outdoor receptacle outlets.

Prior to the 2017 NEC ... no minimum branch circuit requirements.

210.11(C)(4) Garage Branch Circuit(s)

⊕ = required by 210.52(G)(1) ⊖ = not required by 210.52(G)(1)



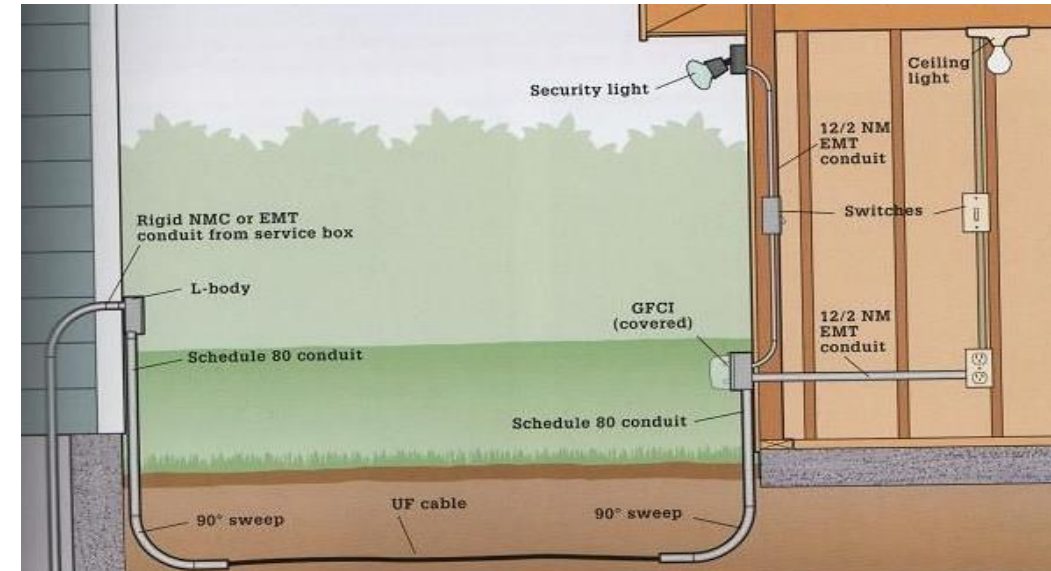
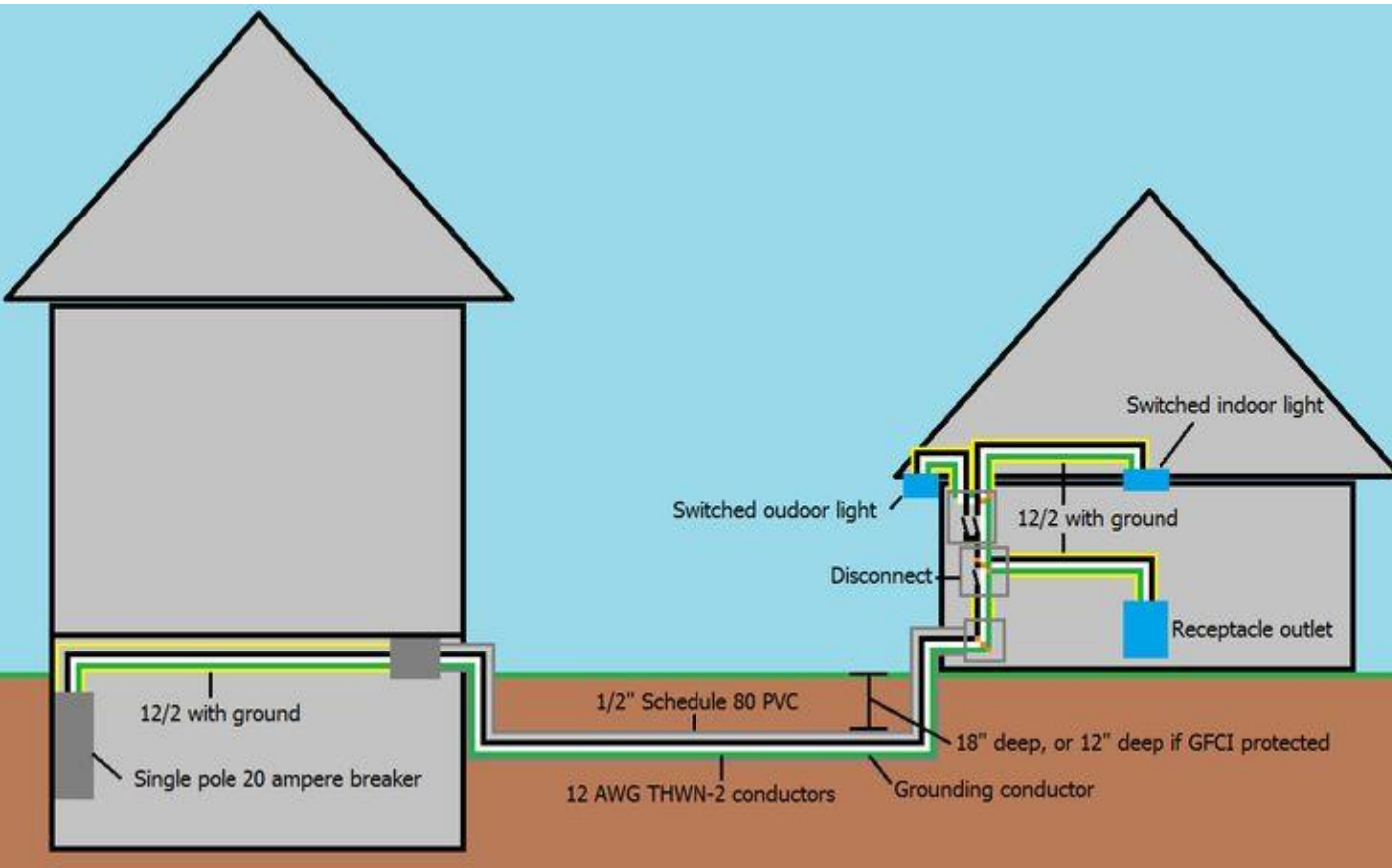
At least one 120-volt, 20-ampere branch circuit shall be installed to supply receptacle outlets **required by 210.52(G)(1)** in dwelling unit garages (no other outlets)

Exception permits supply of readily accessible outdoor receptacle outlets

2020 NEC requires: garage stall vehicle receptacle outlets to be on a separate 20 amp branch circuit. This circuit shall not have any lighting outlets on the circuit.

Typically, a new garage requires two branch circuits. One circuit for receptacles and one for lighting.

When does existing electrical wiring installed in compliance with previous electrical codes need to comply with the current electrical code?



We assume that existing wiring met the NEC at the time the it was installed.

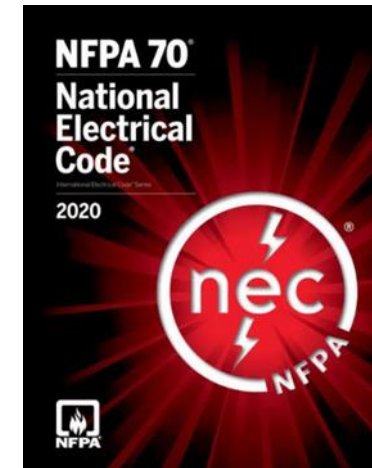
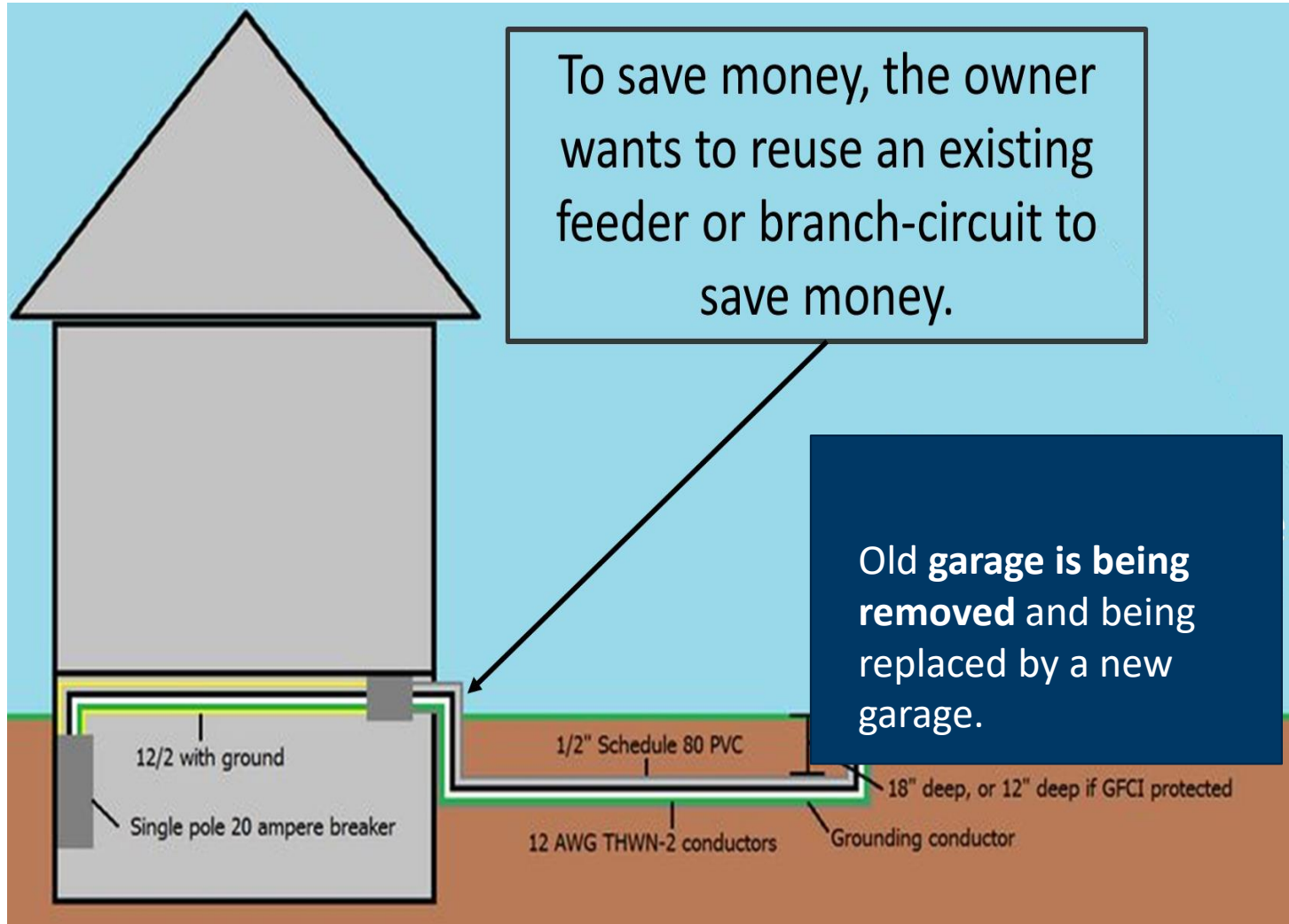
Department's position for existing electrical circuits

We assume that existing wiring met the NEC at the time the it was installed.

There are countless homes across the U.S. that contain one or more different wiring methods that were installed in the first half of the 1900's that can remain in use - if the existing wiring is:

- In good condition
- Is fully operational
- Has not been subject to overloading or physical damage
- Is large enough to handle the electrical load
- Is properly protected by overcurrent protection

Except in very limited situations, the National Electrical Code does not apply retroactively. Existing electrical wiring is not required to be brought up to current National Electrical Code!



Existing Branch Circuits: Examples

1. A dwelling unit has a 60 amp service. The kitchen is being remodeled and new 20 amp branch circuits are extended from the existing 60 amp service. Does the service need to be upgraded to 100 amps? No. If the load is not increased above the 60 amps service conductor ampacity, we would not require the service to meet the 100 minimum code requirement.
2. New 100 amp feeder panelboard is installed in an existing farmhouse (service on the pole). The underground supplying the home is an existing 3-wire URD (2-hots and a neutral) without an equipment grounding conductor. Would you need to replace the existing underground feeder conductors? No. 250.32, Exception 1.



90.4(C) Specific Requirements and Alternative Methods. By special permission, the authority having jurisdiction may waive specific requirements in this Code or permit alternative methods where it is assured that equivalent objectives can be achieved by establishing and maintaining effective safety.

90.2(F) Special Permission.

The authority having jurisdiction for enforcing this Code may grant exception for the installation of conductors and equipment that are not under the exclusive control of the electric utilities and are used to connect the electric utility supply system to the service conductors of the premises served, provided such installations are outside a building or structure, or terminate inside at a readily accessible location nearest the point of entrance of the service conductors.

Switched outdoor light

12/2 with ground

24 Feet

24ft X 24ft =
Garage is 576 ft²

2023 NEC 220.5
576 ft² Times 3 VA =
1,728 VA

Load per NEC
1,728 VA/ 120 volts =
14.4 amps at 120 volts

24 Feet

Remember, prior to the 2023 NEC, there was no calculation for the garage branch circuits (220.11).

I will provide an example based on the 2023 NEC (220.5).

Existing electrical wiring can remain in place if:

- In good condition
- Is fully operational
- Has not been subject to overloading or physical damage
- Is large enough to handle the electrical load
- Is properly protected by overcurrent protection

24 Feet

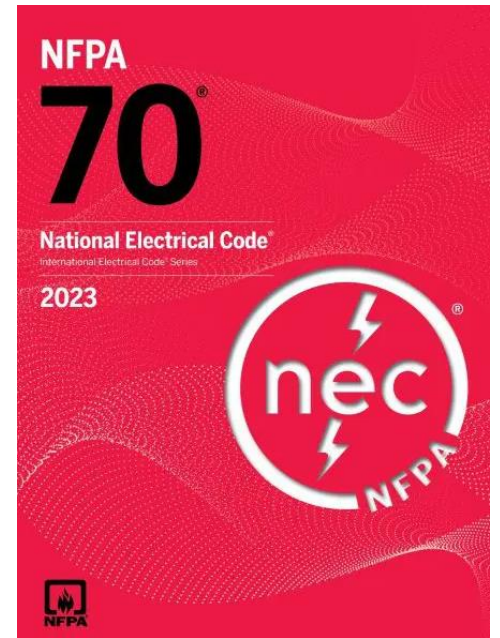
24ft By 24ft =
Garage is 576 ft²

2023 NEC 220.5
576 ft² Times 3 VA =
1,728 VA

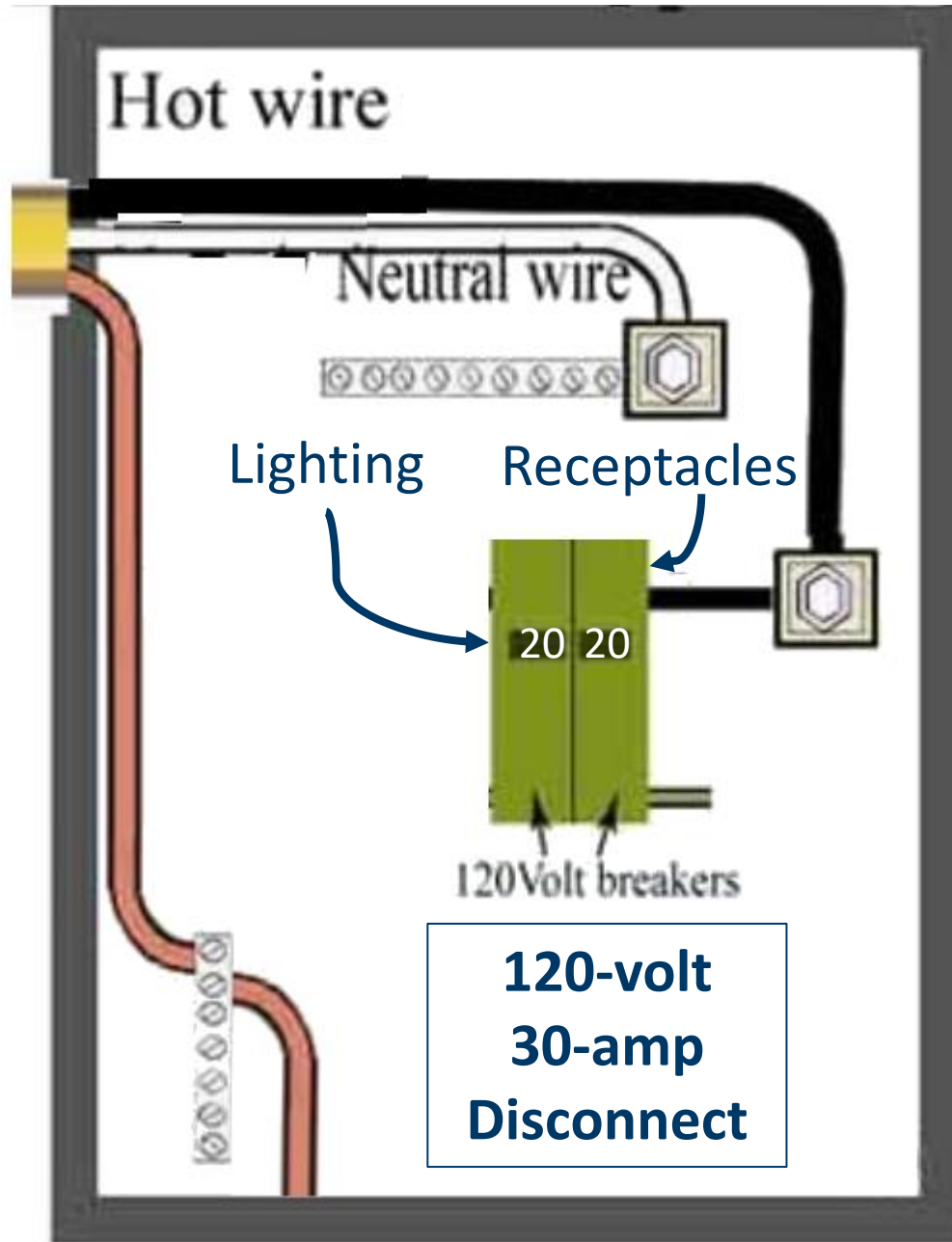
Load per NEC
1,728 VA/ 120 volts =
14.4 amps at 120 volts

24 Feet

Based on the calculation, the feeder to the garage could be 15 amps and the electrical contractor could supply a 2 circuit panelboard to meet the minimum requirement.



15-Amp
feeder



Based on the calculation, the feeder to the garage could be 15 amps and the electrical contractor could supply a 2 circuit panelboard

Summary:

Generally, The calculated load of a feeder or service shall not be less than the sum of the loads on the branch circuits supplied... (220.40)

By allowing an installer to replace the feeder panel with a junction box, the owner could use a single branch circuit to the garage without the cost of a feeder subpanel and the grounding electrode system.

While maintaining effective safety and establishing that equivalent objectives.



Questions?