UNIFORM BUILDING CODE COMMISSION MEETING

August 14, 2024 9:00 AM

meet.google.com/xsz-hwgb-suc Phone Numbers (US)+1 254-881-9257 PIN: 653 220 525#

Anchor Location Room 474 Heber M Wells Building 160 E 300 S

- 1. Roll call
- 2. Elect a chairman and vice-chair
- 3. Approve minutes from the December 20, 2023
- 4. Review proposed amendments to 2023 NEC

Article 210.8(A)

Article 210.8(D)

Article 210.52©(2)

Article 220.5(c)

Article 314.27(A)(2)

Article 406.4(D)(4)

- 5. Review recommendation from Electrical Advisory Committee for the 2023 NEC along with proposed amendments
- 6. Approve 2023 NEC with current and proposed amendments for public hearing

Advisory Committee Minutes

Electrical Advisory Committee 9-14-23, 10-12-23, 10-26-23, 11-9-23, 1-11-24, 2-8-24, 4-11-24, 5-9-24, 6-13-24, 7-11-24 & 7-18-24

Info Items

Spreadsheet for 2023 NEC

Next meeting date: September 11,2024

Please call Sharon at 530-6163 if you do not plan on attending the meeting.



In compliance with the Americans with Disabilities Act, individuals needing special accommodations (including auxiliary communicative aids and services) during this meeting should notify Carol Inglesby, ADA Coordinator, Division of Occupational and Professional Licensing, 160 East 300 South, Salt Lake City UT 84111, Phone 530-6626, at least three working days prior to the meeting.

MINUTES

UTAH UNIFORM BUILDING CODE COMMISSION

December 20, 2023

9:00

Convened: 9:11

Adjourned: 9:30

STAFF:

Stephen Duncombe, Bureau Manager Sharon Smalley, Board Secretary Nicole Herrera. Board Secretary Matt Johnson, Legal Analyst

COMMISSIONERS:

Thomas Peterson
Josh Blazzard
Lorianne Bisping
Travis Dalley
Trent Hunt
Ken Adams
Gary Bullock

Art Anderson
Karl Mott
Joerg Ruegemer
Scott Carpenter (excused)
Steve Dailey

Chris Hendrickson

VISITORS:

Ross Ford Herriman Building Dept Bryce McConkie Cathryn Nelson

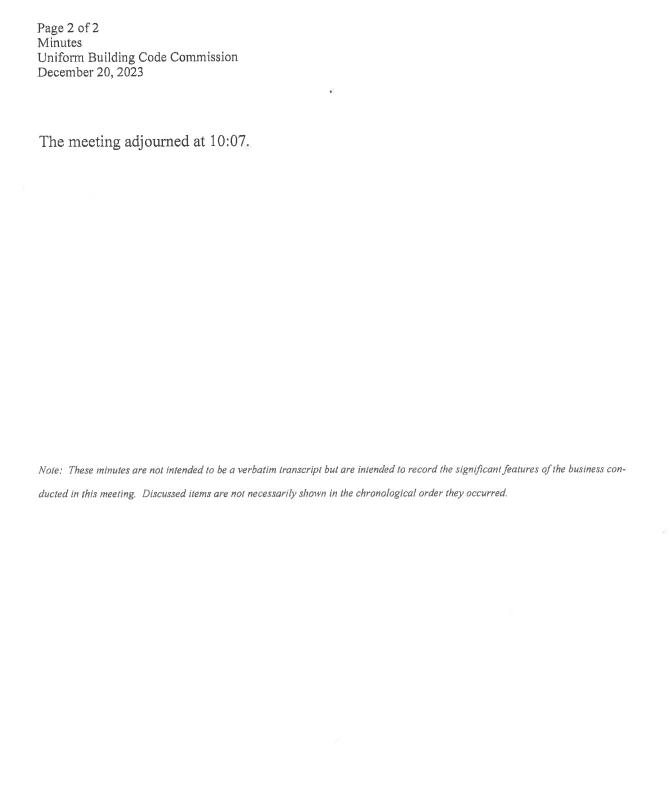
PUBLIC HEARING

A public hearing was conducted by Matt Johnson for the corrections and new proposed amendments for Title 15A.

MINUTES

A motion was made by Trent Hunt to approve the minutes from the December 13, 2023, meeting as written. The motion was seconded by Karl Mott and passed unanimously.

MAKE A RECOMMENDATION TO THE BUSINESS AND LABOR INTERIM COMMITTEE There were no comments made by the public during the public hearing. A motion was made by Karl Mott to approve the recommendations for Title 15A and to move them forward to the Business and Labor Interim Committee. The motion was seconded by Trent Hunt and passed unanimously.



UTAH DEPARTMENT OF COMMERCE DIVISION OF OCCUPATIONAL AND PROFESSIONAL LICENSING 160 East 300 South Salt Lake City UT 84111 PO Box 146741 Salt Lake City UT 84114-6741

E-mail: b8@utah.gov Web: www.dopl.utah.gov

REQUEST FOR CODE AMENDMENT

Requesting Agency/Person: Home Builders Association of Utah

Street Address: 38 W 113775 S suite 120

City, State, Zip Draper Utah 84020

Contact Person: Ross Ford

Phone: 801-361-9301

Code to be Amended: 2023 National Electric Code (NEC)

(Include edition)

Section: 210.8(A)

Section GFCI for Kitchen Receptacles

AMENDMENT:

In line 6 after the word kitchens add where the receptacles are installed to serve the countertop surfaces

Strike line 7

210.8(A) Dwelling Units.

All 125-volt through 250-volt receptacles installed in the locations and supplied by single-phase branch circuits rated 150 volts or less to ground shall have ground-fault circuit-interrupter protection for personnel.

- (1) Bathrooms
- (2) Garages and also accessory buildings that have a floor located at or below grade level not intended as habitable rooms and limited to storage areas, work areas, and areas of similar use
- (3) Outdoors
- (4) Crawl spaces at or below grade level
- (5) Basements
- (6) Kitchens where the receptacles are installed to serve the countertop surfaces
- (7) Areas with sinks and permanent provisions for food preparation, beverage preparation, or cooking
- (8) Sinks where receptacles are installed within 1.8 m (6 ft) from the top inside edge of the bowl of the sink
- (9) Boathouses
- (10) Bathtubs or shower stalls where receptacles are installed within 1.8 m (6 ft) of the outside

Purpose of or Reason for the amendment:

Reason:

GFCIs have been an unmitigated success, contributing significantly to reducing deaths due to electrical shock. In just 25 years after GFCIs were introduced, accidental electrocutions in the United States were cut by more than half, even though electricity use more than doubled 1. There is a clear relationship between the reduction in electrocutions and the increased use of GFCIs over the last 45 years as indicated in Figure 1 below. However, this success has relied on requiring the devices in locations where dangers exist which they can protect against.

GFCIs are shown to be effective where a corded product is plugged into a standard "convenience" receptacle in a wet or damp location. However, the expanded requirement is for areas of the kitchen where handheld electric devices will never come near the sink. The extent of a "kitchen" is very open to 8

interpretation and may include any dining and living areas connected to it in today's popular open floor plans. Many additional receptacles are covered by this new requirement.

Over 80 percent of the incidents cited as reason for this change in the model code resulted from people attempting to repair, modify or install an appliance while plugged in and contact occurring with the energized elements within the particular appliance. The NEC should not mandate GFCI protection for all kitchen outlets due to the clearly unsafe practices of unqualified individuals.

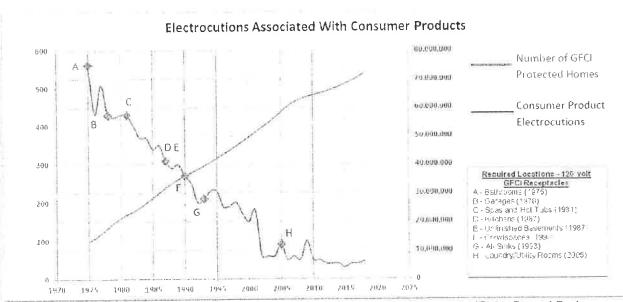


Figure 1: GFCI Protection in Homes Versus Electrocutions 1975 to 2018 (Source: A NEMA Ground Fault Personnel Protection Section Article entitled "GFCI Receptacles: Consumer Protection Personified" June 2020, Revision 2).

Footnotes:

1

"Know the Dangers in Your Older Home", February 2015 (page 5), Electrical Safety Foundation International.

Cost or Savings Impact of Amendment:		
This amendment will save 50 to 100 dollars per home.		
	,	
Compliance Costs for Affected Persons (APerson® means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an agency.) (You must break out the impact cost to State Budget, Local Government and you must state aggregate cost to other persons {cost per person times number of persons affected}):		
This amendment will have no cost change for affected persons		
	9	
Signature:	Date: 6/6/2024	

For Division Use:

Date Received:	
Committee Action:	 UBC Commission Decision for Hearing: Δ Approved for hearing Δ Denied Δ Approved with revisions Δ Referred to: Δ Tabled
Date Filed:	Public Hearing Date:
UBC Commission Decision for Adoption: Approved Δ Denied Δ Approved with revisions Δ Referred to: Δ Tabled	Effective Date:

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REQUEST FOR CODE AMENDMENT

Requesting Agency/Person: Home Builders Association of Utah	Date:6 Jun 20204
Street Address:38 W 113775 S suite 120	
City, State, Zip Draper Utah 84020	
Contact Person: Ross Ford	Phone:801-361-9301
Code to be Amended: 2023 National Electric Code (NEC) (Include edition)	
Section: 210.8(D)	0
Section Title: Specific Appliances	

AMENDMENT:

Type proposed amendment in rule change form. (Using strikeout on portions being removed and underline on all new wording.)

Strike 8 through 11

210.8(D) Specific Appliances.

GFCI protection shall be provided for the branch circuit or outlet supplying the following appliances

rated 150 volts or less to ground and 60 amperes or less, single- or 3-phase:

- (1) Automotive vacuum machines
- (2) Drinking water coolers and bottle fill stations
- (3) High-pressure spray washing machines
- (4) Tire inflation machines
- (5) Vending machines
- (6) Sump pumps
- (7) Dishwashers
- (N) Electric ranges
- (9) Wall-mounted ovens
- (10) Counter-mounted cooking units
- (11) Clothes dryers
- (12) Microwave ovens

Purpose of or Reason for the amendment:

Reason:

The two main reasons for this amendment are the (1) incompatibility issues caused by requiring 240-volt appliances to be on a GFCI device and (2) the inadequate substantiation given when it was adopted into the model code.

The change to this section now requires receptacles serving household ranges to be covered by a GFCI device. The Association of Home Appliance Manufacturers (AHAM) points out that when this code proposal was submitted to the NEC, it was not submitted to the relevant product safety standards for household appliances that plug into such outlets. As a result, no evaluation was conducted to evaluate issues of compatibility between these household appliances and GFCI devices, leading to nuisance tripping. For more information, see AHAM's white paper Nuisance Tripping of Ground-Fault Circuit Interrupters (GFCIs) for Appliances.

The GFCI was first introduced into the NEC when loads, such as appliances, in the home were operating on 60Hz electricity. Therefore, the GFCIs based their protection requirements on current measurements at 60Hz:

Virtually every modern AC electrical product has parts of the appliance that are operating at frequencies other than 60Hz. This is due to implementation of components like LED drivers, switched-mode power supplies, electrically commutated motors, and variable frequency drives. These components have been implemented to meet consumer demands but also to comply with mandatory energy efficiency regulations set by the U.S. Department of Energy and state regulators.

GFCIs need to be modernized. There are no existing requirements for how a GFCI shall react to frequencies above 60Hz. Even if appliances have minimal, safe levels of high frequency leakage current, GFCIs are tripping and disabling critical appliances. There is a UL 943 Task Group that is working to update the GFCI standard for modern electrical loads.

Until this update is published into UL 943 and made a compliance requirement, GFCI expansion in the NEC is premature.

Regarding the substantiation for this change in the model code, the unfortunate event used as the sole substantiation for the change involved an older stove with both an appliance manufacturing error as well as an installation error. This change goes beyond requiring belt and suspenders safety provisions, which were already in place.

The proposed requirement of GFCI protection for all 240-volt receptacles is too broad and not supported by the committee's substantiation. According to the NFPA article used to support the change, the appliance in question was "an older installation, one predating today's requirement to install an equipment grounding conductor in the branch circuit to the range". The tragedy was only possible with older wiring. This is another example that shows new construction and updated electrical systems do not constitute the same dangers as those in older homes, yet this requirement was not limited to homes with older wiring methods.

The committee contended that 240-volt receptacles presented similar hazards as 125-volt convenience receptacles and this is not true. 240-volt receptacles are installed behind the range or dryer without

being readily accessible to the consumer. 240-volt appliances are plugged in and left for the operation of the appliance, but 125-volt receptacles are generally accessible to the consumer. If the consumer chose to, they could use a convenience receptacle for extension cords or other appliance use, whereas a 240 volt receptacle is specific to that appliance.

Similar amendments were put in place last adoption cycle however the language in the 2023 code can be interpreted to get around previous amendments.

Cost or Savings Impact of Amendment:

The cost will vary depending on size of home and number of appliances, but it is estimated to generate a savings of over \$300 per home

Compliance Costs for Affected Persons (APerson@ means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an agency.) (You must break out the impact cost to State Budget, Local Government and you must state aggregate cost to other persons {cost per person times number of persons affected}):

This amendment will have no cost change for affected persons

Signature:	Date: 6/6/2024

For Division Use:

Date Received: **UBC** Commission Decision for Hearing: Committee Action: Δ Approved for hearing Δ Denied △ Approved △ Denied Approved with revisions Δ Approved with revisions A Referred to: Δ Referred to: ∆ Tabled △ Tabled Public Hearing Date: Date Filed: UBC Commission Decision for Adoption: Approved △ Denied Δ Approved with revisions Effective Date: Δ Referred to: △ Tabled

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REQUEST FOR CODE AMENDMENT

Requesting Agency/Person: Home Builders Association of Utah	Date:6 Jun 20204	
Street Address:38 W 113775 S suite 120		
City, State, Zip Draper Utah 84020		
Contact Person: Ross Ford	Phone:801-361-9301	
Code to be Amended: 2023 National Electric Code (NEC) (Include edition)		
Section: 21.52(C)(2)		
Section Title: Kitchen receptacles on Islands and Peninsulas		

AMENDMENT:	
Delete the entire section	

Purpose of or Reason for the amendment:		
Cost or Savings Impact of Amendment:		
The cost will vary depending on size of home and number of devices, but it is estimated to generate a savings of over \$300 per home		
Compliance Costs for Affected Persons (APerson@ means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an agency.) (You must break out the impact cost to State Budget, Local Government and you must state aggregate cost to other persons {cost per person times number of persons affected}):		
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Street Address:38 W 113775 S suite 120	
City, State, Zip Draper Utah 84020	7
Contact Person: Ross Ford	Phone:801-361-9301
Code to be Amended: 2023 National Electric Code (NEC) (Include edition)	
Section: 220.5(c)	
Section Title: Floor area	

AMENDMENT:

Type proposed amendment in rule change form. (Using strikeout on portions being removed and underline on all new wording.)

220.5(C) Floor Area. The floor area for each floor shall be calculated from the outside dimensions of the building, dwelling unit, or other area involved. For dwelling units, the calculated floor area shall not include open porches, garages, or unfinished areas not adaptable for future use as a habitable room or occupiable space.

Purpose of or Reason for the amendment:

In the 2023 NEC development cycle, garages were removed from the list of exempted areas solely because "there are general lighting load requirements throughout the entire dwelling," including the garage. As written, this section requires the floor area of garages to be included in the branch-circuit load calculations. It does not add any additional electrical loading through receptacle outlets, lighting, etc. It simply requires more capacity in the electrical panel despite discussions happening that electrical loads are declining due to more efficient lighting and appliances.

This amendment restores the application of this section to the 2020 code by replacing the word "garages",

Consider that the code requires the following electrical loads which would fall under the calculation of Section 220,5(C).

- One 20-amp receptacle outlet in each vehicle bay
- One lighting outlet

Section 220.41 allows motors rated less than 1/8 hp to be considered part of the minimum lighting load when connected to a lighting circuit. However, garage door openers available today are typically ½ hp or larger. They would need to be calculated separately and would not be included in the floor area calculation.

Cost or Savings Impact of Amendment:		
There is no cost increase for this amendment.		
Compliance Costs for Affected Persons (APerson@ means any individual governmental entity, or public or private organization of any character of the impact cost to State Budget, Local Government and you must state a person times number of persons affected}):	ther than an agency.) (You must break out	
This amendment will have no cost change for affected persons		
Signature:	Date: 6/6/2024	
	l	

For Division Use:

Date Received:

Committee Action:

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Δ Tabled

UBC Commission Decision for Hearing:

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Street Address:38 W 113775 S suite 120		
City, State, Zip Draper Utah 84020		
Contact Person: Ross Ford	Phone:801-361-9301	
Code to be Amended: 2023 National Electric Code (NEC) (Include edition)		
Section: 314.27(A)(2)		
Section Title: Ceiling Outlets		

AMENDMENT:

Type proposed amendment in rule change form. (Using strikeout on portions being removed and underline on all new wording.)

At every outlet used exclusively for ceiling suspended paddle fan lighting, the box shall be designed or installed so that a luminaire or lampholder can be attached. Boxes shall be required to support a luminaire weighing a minimum of 23 kg (50 lb). A luminaire that weighs more than 23 kg (50 lb) shall be supported independently of the outlet box, unless the outlet box is listed for not less than the weight to be supported. The interior of the box shall be marked by the manufacturer to indicate the maximum weight the box shall be permitted to support.

Purpose of or Reason for the amendment: This amendment eliminates the need for weight rated boxes for sm need for a box to be rated to hold a 50 pound fixture when the fixtu to a wall and used to illuminate art.	
Cost or Savings Impact of Amendment:	
This amendment will reduce the cost by \$6 per non rated light box.	
Compliance Costs for Affected Persons (APerson@ means any individual governmental entity, or public or private organization of any character of the impact cost to State Budget, Local Government and you must state agperson times number of persons affected}):	her than an agency.) (You must break out
This amendment will have no cost change for affected persons	
Signature:	Date: 6/6/2024
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Requesting Agency/Person: Home Builders Association of Utah	Date:6 Jun 20204
Street Address:38 W 113775 S suite 120	
City, State, Zip Draper Utah 84020	
Contact Person: Ross Ford	Phone:801-361-9301
Code to be Amended: 2023 National Electric Code (NEC) (Include edition)	
Section: 406.4(D)(4)	
Section Title: Arch Fault Circuit Interrupters (AFCI) Receptacle R	eplacement

AMENDMENT:		
Delete the entire section		

Purpose of or Reason for the amendment:

The last time the list of locations within a dwelling requiring AFCIs was changed was in the 2014 NEC, and it was substantiated by pointing to the decision to add them to the code in the 1990s. Since then, that original decision has not been revisited despite mounting evidence that these devices do not offer the benefits they were intended for.

AFCIs were first introduced in the 1999 edition of the National Electrical Code (NEC) with an effective date of Jan. 1, 2002. The approval of the code change was based on the U.S. Consumer Product Safety Commission (CPSC) report Revised Residential Fire Loss Estimates: 1980 –1998. However, the number of incidents cited at the time was nearly five times higher than in the later CPSC report 2010–2012 Residential Fire Loss Estimates (see Table 1). This significant change is not due to any effect from the slow rollout of AFCIs after 2002 which was limited to bedroom circuits until the 2008 NEC and only where the latest edition was adopted.

Table 1: Change in Electrical Distribution Fire Estimates

	CPSC Report 1980-1998	2015 CPSC Report 2010-2012	Percentage of Original Estimate
Total Estimated Fires Attended by the Fire	47,000	9,600†	20%
Service (Annual Average)	47,000	9,000	20 / 6

† The properties that were included in the analysis were single/multifamily dwellings, any type of boarding houses, dormitories, sorority/fraternity houses, hotels/motels, and mobile and motor homes not in transit.

It is important to note that the lower number from the later report includes mobile (manufactured) homes and motor homes (RVs) that are not in transit. It is unclear to what extent these particular property types contribute to the overall number of fires, and the proposed exception does not exempt them.

Where the data showed that AFCIs would have a minimal benefit, the results were ignored. The resulting expected benefits led to AFCI requirements being included in the NEC, but they were overblown. Today, the data bears this out. AFCIs have now been protecting electrical systems in homes for two decades and that protection has grown to cover an extensive area of the home. If they were effective, one should reasonably expect to see fire data showing a steady decline in fires involving electrical wiring and related equipment. However, that is not the case.

The Fire Protection Research Foundation (FPRF), an affiliate of NFPA, concluded there is no practical method to collect relevant data in their report Residential Electrical Fire Problem: The Data Landscape. The FPRF investigated the available data in 2018 and concluded the following: "Unfortunately, there are inherent challenges and barriers to the effective collection of the applicable data. Traditional data collection approaches have shortcomings that make their ultimate value questionable (e.g., lack of detail and quality on fire department collected residential fire events). Further, not all existing datasets are openly accessible, is lacking specific important details, or is

insufficient in quality." There is no known data indicating that the expansion of AFCI requirements in the NEC has resulted in a quantifiable reduction of residential fires due to electrical malfunctions. The problems with the original rationale were so evident that even electrical manufacturers spoke against the proposal at the time. During the 1998 code development cycle comment period, manufacturers' representatives stated that a large body of information was available to support rejecting an AFCI mandate. The main issue: the electrical problems AFCIs are designed to prevent occur overwhelmingly in older dwellings.

The July 2021 issue of the U.S. Fire Administration's Topical Fire Report Series reported "A strong relationship between housing age and the rate of electrical fires has been observed, with housing over 40 years old having the strongest association with electrical distribution fires [emphasis added]." This finding is from the 1988 CPSC study, "Residential Electrical Distribution System Fires," so it is comparing homes that are now 80 years old with those that were new at that time of the study. No similar study has been made to compare the previous findings with homes built in the last four decades. When the home was built is important: The median age of one- and two-family housing in the U.S. is 40 years. The share of housing units built before 1970 is 38%, and those built before 1950 is 18%. According to a study conducted by the U.S. Consumer Product Safety Commission, dwellings built before 1965 may still have fuses instead of circuit breakers, and those built before 1945 may still have knob and tube wiring.

No data is collected on the age of a home when a fire occurs, and the vast majority of residential fires may occur in these older homes. The CPSC study showed that 85% of fires of electrical origin occur in homes that are more than 20 years old at the time of the study. This means that the bulk of these homes were wired in accordance with the 1965 or earlier editions of the NEC. Further, they were wired with products manufactured to product safety standards of a similar vintage. In the years since this study was produced, numerous changes have been made in both the NEC and product safety standards which mitigate against similar fires in newer homes—even as they age.

These older homes were also wired with a very limited number of receptacle outlets, resulting in extensive use of extension cords or improper alterations and additions to the original electrical system, both recognized fire hazards. In addition, they are more likely to have outdated appliances, space heaters or other characteristics that might lead to a greater risk of a fire starting. Newer homes have fire blocking, hardwired smoke alarms and egress windows installed to today's codes, all of which increase the chances of surviving a fire if one does start. Even as homes built to today's residential code get older, they will continue to provide protection for families through their improved safety.

From 1980 to 2015, data shows there has been a significant drop in the number of reported fires, injuries and fatalities in the United States. During that time period the number of fires has dropped by 50 percent and fatalities have dropped by about the same margin, even as the population increased. The decline was sharpest during the 1980s before AFCIs were introduced. This further supports the

importance of encouraging homeowners to move up to newer homes without the added burden of increased regulation.

It is clear that requiring AFCIs in new construction will not prevent all damage. This is due to the fact

that AFCIs cannot prevent all fires and, more importantly, that electrical fires occur overwhelmingly in older houses. While questions regarding construction code requirements intended to increase the safety of homes cannot, and should not, be decided solely on the issue of cost, it is reasonable to ask if there is a demonstrated need for the requirement or if an acceptable level of safety can be achieved through other, less expensive means. The cost of an incremental increase in the margin of safety can be quite high.

The lack of data to support AFCI expansion caused the leadership of the governing code-making panel to ask the NFPA Research Foundation (an affiliate of NFPA who publishes the NEC) to analyze existing fire data and make recommendations on next steps. Its report "Residential Electrical Fire Problem: The Data Landscape" acknowledged that "data and data analytics is lacking to guide the optimum approaches to minimize residential electrical fires and related hazards." The report also observes that "while proving the effectiveness of preventative measures (e.g., AFCIs) is a challenging task, the significant limitations associated with the existing traditional data sources presents serious concerns." It is clearly not the time to expand AFCI coverage in the home when the benefits cannot be verified. Higher regulatory costs have real consequences for working American families. These regulations end up pushing the price of housing beyond the means of many teachers, police officers, firefighters and other middle-class workers. Nationally, for every \$1,000 increase in the price of a home, about 140,500 households are priced out of the market for a median-priced new home. (These households would qualify for the mortgage before the price increase, but not afterward. In Utah for every \$1000 increase about 1498 households are priced out of the market.

Mandating costly incremental increases in safety will only protect those who can afford them and will often decrease safety for those who cannot. Families who cannot qualify to purchase homes due to the increased costs from mandatory code requirements such as AFCIs will have to live in housing that is less safe, because that housing was built to less stringent code requirements.

Cost or Savings Impact of Amendment:

The cost will vary depending on size of home and number of devices, but it is estimated to generate a savings of over \$300 per home

Compliance Costs for Affected Persons (APerson@ means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an agency.) (You must break out the impact cost to State Budget, Local Government and you must state aggregate cost to other persons {cost per person times number of persons affected}):

This amendment will have no cost change for affected persons

Signature:	Date: 6/6/2024
For Division Use: Date Received:	
Committee Action: Δ Approved Δ Denied Δ Approved with revisions Δ Referred to: Δ Tabled	UBC Commission Decision for Hearing: Δ Approved for hearing Δ Denied Δ Approved with revisions Δ Referred to: Δ Tabled
Date Filed:	Public Hearing Date:
UBC Commission Decision for Adoption: \$\triangle \text{Approved} \text{Denied} \\ \triangle \text{Approved with revisions} \\ \triangle \text{Referred to:} \\ \triangle \text{Tabled}	Effective Date:

 Δ Tabled

Part 6

Statewide Amendments to National Electrical Code

15A-3-601 General provisions.

The following are adopted as amendments to the NEC to be applicable statewide:

(1) The IRC provisions are adopted as the residential electrical standards applicable to residential installations under the IRC. All other installations shall comply with the adopted NEC.

(2) In NEC, Section 210.8(A), the words "through 250-volt" are deleted.

(3) In NEC, Section 210.8(A)(5), the word "Basements" is deleted and replaced with "Unfinished portions or areas of the basement not intended as habitable rooms."

(4) NEC, Section 210.8(F), is deleted.

(5) NEC, Sections 210.52(C)(2) and (3) are deleted and replaced with the following:

"210.52(C)(2) Island and peninsular countertops and Work Surfaces. Receptacle outlets, if installed to serve an island or peninsular countertop or work surface, shall be installed in accordance with 210.52(C)(3). If a receptacle outlet is not provided to serve an island or peninsular countertop or work surface, provisions shall be provided at the island or peninsular for future addition of a receptacle outlet to serve the island or peninsular countertop or work surface.

210.2(C)(3) Receptacle outlet location. Receptacle outlets shall be located in one or more of the

following:

(a)On or above, but not more than 500 mm (20 inches) above a countertop or work surface.

(b)In a countertop using receptacle assemblies listed for use in countertops.

(c)In a work surface using receptacle outlet assemblies listed for use in work surfaces or listed for use in countertops.

Receptacle outlets rendered not readily accessible by appliances fastened in place, appliance garages, sinks, or range tops as covered in the exception to 210.52(C)(1), occupying assigned spaces shall not be considered as these required outlets.

Exception: In dwelling units designed to be accessible to persons with disabilities, receptacles shall be permitted to be installed not more than 300 mm (12 inches) below the countertop or work surface. Receptacles installed below a countertop or work surface shall not be located where the countertop or work surface extends more than 1 50 mm (6 inches) beyond its support or base. "

- (6) NEC, Section 210.12, is deleted.
- (7) NEC, Section 210.65, is deleted.
- (8) NEC, Section 230.67, is deleted.
- (9) NEC, Section 230.71, is deleted and replaced with the following: "230.71 Maximum Number of Disconnects. (A) General. The service disconnecting means for each service permitted by 230.2, or for each set of service-entrance conductors permitted by 230.40, Exception No. 1, 3, 4, or 5 shall consist of not more than six switches or sets of circuit breakers, or a combination of not more than six switches and sets of circuit breakers, mounted in a single enclosure, in a group of separate enclosures, or in or on a switchboard or in switchgear. There shall be not more than six sets of disconnects per service grouped in any one location. For the purpose of this section, disconnecting means installed as part of listed equipment and used solely for the following shall not be considered a service disconnecting means:
 - (1) Power monitoring equipment;

- (2) Surge-protective device(s); Utah Code Page 2
- (3) Control circuit of the ground-fault protection system; or
- (4) Power-operable service disconnecting.
- (B) Single-Pole Units. Two or three single-pole switches or breakers, capable of individual operation, shall be permitted on multiwire circuits, one pole for each ungrounded conductor, as one multipole disconnect, provided they are equipped with identified handle ties or a master handle to disconnect all conductors of the service with no more than six operations of the hand.
- (C) Beginning on July 1, 2027, Section 230.71(B) is no longer in effect.
- (10) NEC, Section 314.27(C), is deleted and replaced with the following: "314.27(C) Boxes at Ceiling-Suspended (Paddle) Fan Outlets. Outlet boxes or outlet box systems used as the sole support of a ceiling-suspended (paddle) fan shall be listed, shall be marked by their manufacturer as suitable for this purpose, and shall not support ceiling-suspended (paddle) fans that weigh more than 32 kg (70 1b). For outlet boxes or outlet box systems designed to support ceiling-suspended (paddle) fans that weigh more than 16 kg (35 1b), the required marking shall include the maximum weight to be supported."
- (11) NEC, Section 406.9(C), is deleted and replaced with the following: "406.9(C) Bathtub and Shower Space. Receptacles shall not be installed within or directly over a bathtub or shower stall."

Amended by Chapter 209, 2023 General Session

Part 6

Statewide Amendments to National Electrical Code

15A-3-601 General provisions.

The following are adopted as amendments to the NEC to be applicable statewide:

- (1) The IRC provisions are adopted as the residential electrical standards applicable to residential installations under the IRC. All other installations shall comply with the adopted NEC.
- (2) In NEC, Section 210.8(A), the words "through 250 volt" are deleted.
- (3)(2) NEC, Section 210.8(A) <u>number</u> (5) the word "Basements" is deleted and replaced with "Unfinished portions or areas of the basement not intended as habitable rooms."
- (3) In NEC, Section 210.8(A) number (6), the following is added after the word Kitchens: "-where the receptacles are installed to serve the countertop surfaces".
- (4) In NEC, Section 210.8(A) number (7) is deleted".
- (5) In NEC, Section 210.8(D) numbers (8) through (12) are deleted.
- (4)(6)In NEC, Section 210.8(F), is deleted.
- (5) NEC, Sections 210.52(C)(2) and (3) are deleted and replaced with the following:

 "210.52(C)(2) Island and peninsular countertops and Work Surfaces. Receptacle outlets, if
 installed to serve an island or peninsular countertop or work surface, shall be installed in accordance with
 210.52(C)(3). If a receptacle outlet is not provided to serve an island or peninsular countertop or work
 surface, provisions shall be provided at the island or peninsula for future addition of a receptacle
 outlet to serve the island or peninsular countertop or work surface.
 - 210.2(C)(3) Receptacle outlet location. Receptacle outlets shall be located in one or more of the following:
 - (1) On or above, but not more than 500 mm (20 inches) above a countertop or work surface.
 - (2) In a countertop using receptacle assemblies listed for use in countertops.
 - (3) In a work surface using receptacle outlet assemblies listed for use in work surfaces or listed for use in countertops.

Receptacle outlets rendered not readily accessible by appliances fastened in place, appliance garages, sinks, or range tops as covered in the exception to 210.52(C)(1), occupying assigned spaces shall not be considered as these required outlets.

Exception: In dwelling units designed to be accessible to persons with disabilities, receptacles shall be permitted to be installed not more than 300 mm (12 inches) below the countertop or work surface. Receptacles installed below a countertop or work surface shall not be located where the countertop or work surface extends more than 1-50 mm (6 inches) beyond its support or base.

- (6) NEC, Section 210.12, is deleted.
- (7) NEC, Section 210.65, is deleted.
- (8)NEC, Section 215.18, is deleted.
- (9) NEC, Section 225.42 is deleted.
- (8)(10) NEC, Section 230.67, is deleted.
- (9)(11) NEC, Section 230.71, is deleted and replaced with the following: "230.71 Maximum Number of Disconnects. (A) General. The service disconnecting means for each service permitted by 230.2, or for each set of service-entrance conductors permitted by 230.40, Exception No. 1, 3, 4, or 5 shall consist of not more than six switches or sets of circuit breakers, or a combination of not more than six switches and sets of circuit breakers, mounted in a single enclosure, in a group of separate enclosures, or in or on a switchboard or in switchgear. There shall be not more than six sets of disconnects per service

grouped in any one location. For the purpose of this section, disconnecting means installed as part of listed equipment and used solely for the following shall not be considered a service disconnecting means:

- (1) Power monitoring equipment;
- (2) Surge-protective device(s); Utah Code Page 2
- (3) Control circuit of the ground-fault protection system; or
- (4) Power-operable service disconnecting.
- (B) Single-Pole Units. Two or three single-pole switches or breakers, capable of individual operation, shall be permitted on multiwire circuits, one pole for each ungrounded conductor, as one multipole disconnect, provided they are equipped with identified handle ties or a master handle to disconnect all conductors of the service with no more than six operations of the hand.
- (C) Beginning on July 1, 2027, Section 230.71(B) is no longer in effect.
- (10) In NEC, Section 314.27(C), is deleted and replaced with the following: "314.27(C) Boxes at Ceiling-Suspended (Paddle) Fan Outlets. Outlet boxes or outlet box systems used as the sole support of a eeiling suspended (paddle) fan shall be listed, shall be marked by their manufacturer as suitable for this purpose, and shall not support ceiling suspended (paddle) fans that weigh more than 32 kg (70 1b). For outlet boxes or outlet box systems designed to support ceiling suspended (paddle) fans that weigh more than 16 kg (35 1b), the required marking shall include the maximum weight to be supported."
- (12) In NEC, Section 334.24, the last sentence is deleted and replaced with the following: "For flat cables, the minor diameter dimension of the cable shall be used to determine the bending radius when bending on the flat side of the cable. For all other bends, the major diameter dimension shall be used."
- (13) In NEC, Section 338.24, the last sentence is deleted and replaced with the following:

 "For flat cables, the minor diameter dimension of the cable shall be used to determine the bending radius when bending on the flat side of the cable. For all other bends, the major diameter dimension shall be used."
- (14) In NEC, Section 406.9(B)(2), the words "be listed weather-resistant type, and installation shall" are deleted.
- (11) In NEC, Section 406.9(C), is deleted and replaced with the following: "406.9(C) Bathtub and Shower Space. Receptacles shall not be installed within or directly over a bathtub or shower stall."
- (15) NEC, Section 700.3(A) is deleted and replaced with the following: "700.3(A) Conduct or Witness Test. The authority having jurisdiction shall conduct or witness a test of the complete system upon installation and periodically afterward.

Amended by Chapter 209, 2023 General Session

Date of the land o	210.52 Residential kii			710.18 Ten ampere b	210.17 circuiting rules of hotels	July Pathery		All purposes thrul, edition of the control of the c	210 s(F) Buildings, and	210 a(D) cocking units	210 a(B)[23] GFCk most on	The rules for GFCI units were expand or stationary applications.	210 8(B)(4) SFCIs now rec	_			210 EANIS Bacomounts for	210 8(A) Current amon		210.5 Editatel revis			Egret distru clarifications must be fall 110 24 4 110 34 epilipment	110.22 http://www.ce	110.21 semoved or destroyed	11020 Recombined	110.17 application, p	110.16 Are dish sign		110.1 Oybersequity concerns 110.1 Christiani of where	Article 220 Relocation of definition	163	
International Control of the control	Residential kitchen countertops rules for islands and peninsular water resident. Measurements for these windows were charities.		Changes made to correlate with 210.18 and 10A tribuils.	ranch circuits are now allowed in limited	s of hatels	I facilities must comply with the	n for arc welders until 2025, although ypically installed in locations that unyway. AfCh now required in some	All guing recognishing are now allowed on the same denut, additional TAC civing are now permitted by non-required receptacles (like the openers), and any outdoor receptacle may now be on the circuit.	Boarbouses	shinds to an endire man parameter	pared within 6" of open aquations with an bott wells and aquanum's.	GFC near sinks of other than dwellings panded to include the distance to a fixed apphares, and just the recentarie.	GFCIs now required for buffet serving areas of other than dwellings	Conflication that exhaust fan receptacles dit not equip GFG protection in most imboses.	similar now require GFCI for the entire	rudes expanded to "all" seceptacles in	ushed writing undireshed	divisor house interior street samp	GFCIs must be listed, and measurements go through windows now.	HON.	on marking aguital confuctors		ction clarifled and espanded, to restricted access subs, working, space dodicated space espanded to the services		estroyed	militared especies and perentially by listed	erformed by qualified persons	now required in more instances	denomine to new "skillful and	concerns	definitions	Educate and to alidity services	The second secon
	District to the design of the control of the contro	manufacture and selection of the Co.	See comment in 210.18.		"develling unit." This has the potential to save money, but until smaller	None, at this was already required due to the stellarition of	incidental language of the control o	This results in a cost saving, should the installer choose to take advantage.	Amount mans, which deprins 250-1910 Marshment	Shirth and the state of the sta	- 3			Cost sawnes	The same of the state of the st	Meridian Complete and Complete Meridian South Services	The state of the contract of t		None, manufacturers are already basing their devices listed. The classification regarding window could not a DFO in purbags 1 in 1,000 installations.	POZA	Horse	NIGH	Including letting, although new with an innovalment these facility types are likely to comply anyway to so dell liability. Alto, manufactures are currently working on equipments, Alto, manufactures are currently working on equipments deligat to maintie flood space. Bit working space could have a minimal flancial impact, although most final library in floring from the country, to design expect, and the second space could have an impact, that seekly applies a could be space.	and this semply cheddes the intent.	exine	Potentally a mancial impact to the cost of reconditioned equipment, but probably already being done. Very rarely close this apply at all.	Hardy more, 24 this is already here; store	Perhaps an impact, although most facilities are doing it to unify OSAN requirements. This only applies to J.000A nated equipment, which is typically an engineered design. An engineer likely accordance to the sufficient in do the calculation.	none	with cybessecurity concerns are almost certainly already tealing with it.	Sear, there are no pretentine requestments. Also, systems	PERSON	
	M		×	×	8		*	.80				×		×					X)	×	×	X	H	×	X	*		×	*	8.80		* 2	1
									*	×					*	*																	

TOWNS OF STREET		Moon, this is for mention where	Overcurrent devices, GFCb, and protective relays	2407
Cardination a wait mind it will be interested and control of the c		Doubtful that this has any financial, as the facilities that would use this technology are likely well aware of the moternial systematical in humands.	Remotely adjustable partitions also been specific requirements for security.	240 6(D)
Cardinations were made to the designation of the control of the co		No cost effect until 14 AWG copper-clad conductors are allowed. That could happen in 2026 or 2029, in which case this is a cost benefit.	Copper-clad conductors are now discussed in the allowances for 10A overcurrent devices.	740 A(II)
Exclusions were made to the first interaction common description and common description and common description of the comm		Minimal if any cost impact, as these allowances were probably already being used, albeit incorrectly. By the letter of the law, that a cost these.	Adjustable trip circuit breakers may now utilize the "next standard size" allowance of this section	240.4(6)
Commission was market to the invariance control devices across the project and control devices are controlled to the control of the control o		This has been standard practice in this for densities, although the signage could add perhaps 55 00 per dwelling.	The allowable ophisms were clarified, and reaching requirements were added for some instances.	230.85
Committee in the second control devices with the install particular that the property of the second control devices are controlled to these required an install particular that the property of the second control through particular that the property of the second control through particular that the property of the second control through particular through the second control through throug		replaced in this edition. No cost impact, as the rule is for manufacturers.	New marking requirements for the neutral disconnect link of multi-section switchgear and switchboards were added.	36.35
Curifications were reside to the minimum delication of severe in the minimum delication were resident in the minimum delication parts of the capture of the		arrando may differ primes that any limit. The projectionary amount data to appear to red to the propertiest, that that the format can be droved that	Additional types of equipment are now recognized in this section, at are misting installations.	230 71
Batterpoperated with mounted control devices (make in light workford) must all the "closed" (som, the larget of this change is transforded and all the "closed" (som, the larget of this change is transforded and the "closed" (som, the larget of this change is transforded and the provided by an outdoor lighthy goulds, an examination as added for bulbered colorum a subsequent, and the provided by an outdoor lighthy goulds, an examination as added for bulbered colorum as subsequent, and the subsequent and the closed and subsequent and subsequen			urige protection requirements were expanded to include domitionels, guest comes, guest suites, and patient sleeping rooms of nursing homes and limited-care facilities.	230 67
Charlestions were made to the interventional deleters (and a religious workness) must fell in the "closed (and a religious workness) must fell in the "closed (and a religious workness) must fell in the "closed (and a religious workness) must fell in the "closed (and a religious workness) must fell in the proposed by an outdoor (aphino colict. an exception for the required for develope). The required outdoor (aphino colict. an exception for the required for develope) in the required outdoor (aphino colict. an exception for the required outdoor (aphino colict. an exception for the required for develope). The secure of financial case facilities and must be considered for the required for develope. The secure of financial case facilities and must be considered for many from a required for develope. The secure footage of develope and account of the collection of the required for develope. The secure footage of develope and control of the required for develope and the collection of the required for develope. The secure footage of develope and the collection of the required for develope and the collection of the required for develope. The secure of financial case facilities and must be proposed to main in gr. Could and S. Cou. Shough the control of the required for develope and the required for the required for the required for develope and the required for the required for the required for the r			Type TC-ER cable and flexible bus systems are now allowed in some applications.	230.43
Entirection was made to the interview of the closed classes (and a role) was control of the closed (and a role) with the closed (and a role) was added for shalled motion as the closed (and and the closed closed by an added of shalled motion as the closed (and the closed closed by an added of shalled or closed closed by an added of shalled or closed closed by an added of shalled or closed closed the closed closed by an added of shalled or closed closed closed by an added of shalled or closed closed closed by an added of shalled or closed closed closed closed by an added of shalled or closed closed closed closed by an added of shalled closed closed closed closed closed by an added of shalled closed clo		This is optional and therefore could only reduce installation	Type 95, ER cable to more able and its hunter applications.	230 30
Charlestoin watermade white instancements Enterpreparated wall immunited control diewice Lighting and it is the arequired in handly assaud In this produced by an outdoor flumhnition must now be provided by an outdoor flumhnition must now be transformer secondary or levels may be transformer secondary or levels may be transformer secondary or levels may be now required outdoor flumhnition must now be transformer secondary or levels may be transformer secondary or levels may be now required. The square flumes are station water sense in provided by an outdoor flumhnition must now be transformer secondary or levels may be transformer secondary or levels may be now required. The square flumes are station water sense in provided by an outdoor flumhnition must now the square station water sense. The square flumes are station water sense in provided by an outdoor flumhnition must now the square station water sense. The square flumes are station water sense provided by an outdoor flumhnition must now the square station water sense. The square flumes are station are sense provided by an outdoor flumhnition must now the square station water sense. The square flumes are station water sense. The square flumes are station water sense provided by an outdoor flumhnition must now the square flumes are station water sense. The square flumes are station water sense provided by an outdoor flumhnition must now the square station are sense. The square flumes are station are sense. The square flumes are station water sense provided by an outdoor flumhnition must now the square flumes are station and station water sense and station water station and station are station and station and station and station and station and station and station are station and station and station are station and station and station and station are station and station and station and station and station are station and station are station and station and station are station and station and station and station are stati		The reference and the state of the Secretary will vection, and typically the conductors that are overhead are until yowned to begin with and therefore NEC exempt. No real impact.	The clearance for overhead service conductors above	23024
Charlestoin watermade to this instantantial. Batterpoperated will immuniced control diewice funds in the proposed and will manufed control diewice funds are night waterbash most fail in the "closed" (see a fund of the proposed of the pro			Clarification to the sealing requirement to match other related sections	230.8
Charlestoin watermade to this instantant to be the closed for substantial properties and the properties of spirits or the conductor spirits of the conduct supplied by an audidod spirits order the light of panelbasid supplied by a conductor spirits over the ligh of panelbasid supplied by a furnishment of conductor spirits over the ligh of panelbasid supplied by a furnishment of conductor spirits over the ligh of panelbasid supplied by a furnishment of conductor spirits over the ligh of panelbasid supplied by a furnishment of conductor spirits over the ligh of panelbasids supplied by a furnishment of conductor spirits over the ligh of panelbasids supplied by a furnishment of conductor spirits over the ligh of panelbasids supplied by a furnishment of conductors of		This change will almost certainly have no impact, although, should the insue arise, it would be an additional cost. Electric unities likely have requirements that probabli what this rule probablis anyway, on the point is likely moot!	Underground bases containing service conductors must not avoid other receipt a medicators.	7,007
Charlications were made to this in intermediate control devices (and a religion special extension properties of million and properties). A secondary of recipient of the charlest and the secondary of recipient and the intermediate control of the charlest and patient to the charlest and the charl		Married in the Communication of the first placement or non-	Surge protection requirements were added. See 215.18	723.42
Charlications were made to this in interaction of devices (and a religious workness) must fall in the "closed" (Soon, the target of this devices that are sequential in hundry assault of the required doublood filmination must row be provided by an outdood spirits color, an exception was added for bubbeard colorure takeneys, and the provided by an outdood spirits of the colorure takeneys, and the provided by an outdood spirits of the colorure takeneys, and the provided by an outdood spirits of the colorure takeneys, and the provided by an outdood spirits of the colorure takeneys, and the provided by an outdood spirits of the colorure takeneys, and the provided by an outdood spirits of the colorure takeneys, and the provided by an outdood spirits of the colorure takeneys, and the provided by an outdood spirits of the colorure takeneys, and the provided by an outdood spirits of the colorure takeneys, and the provided by an outdood spirits of the colorure takeneys, and the provided by an outdood spirits of the colorure takeneys, and the provided by an outdood spirits of the colorure takeneys, and the provided by an outdood spirits of the colorure takeneys, and the colorure takeneys are takeney to be an out to be colorure takeneys, and the colorure takeneys are takeney to be an out to be colorure takeneys and the colorure takeneys and		This could have cost impact, but in nearly all installations in the western DS. It is a stream there invisalled this way.	New rule mirrors the language in 230.85 for emergency disconnectual dwellings.	225.41
Charlestions were made to the feet in the required of manifest control devices (and a religion secretary most feet in the "closed" (some thirty and the feet of the devices of the closed of the close			Clarification to the sealing requirement to makin other related sections	225.27
Charlestions were made to the feet season and feeder in the service of the season of t		This has the potential to be the biggest cost reduction in decades, depending on the complexity of the energy management system. Such a system is meet required, so this yields here management that meet required, so this yields here management made instances that meet entitled.	Energy management systems (EMS) are now allowed in least of a load calculation.	220 70
Charlestions were made to this in intervience to the closed form of the closed formation in the closed		Ш	Clarification to the A/C versus heat issue	220.60
Charlestions were made to this in interview of the closed formation of the closed formation in the clo		-	r F	530.67
Charlestoire were made to little in interviewed to the little in the service of the closed of the closed in the service of the closed of the c		This could be a cost increase, but taken with other correlating changes the loads for electric whiches have continued been reduced. Few people are using the standard method of calculation anyway, so in most instances this has an impart as it.	The 75% demand factor for dwelling unit appliances no longer includes electrical wehicle supply equipment.	220,53
Charlestoire were made to this he assessment. Battery operated will mounted control device format in the first closed of the charles in the service of the charles of the		for schools and arenas, yielding significant cost savings	ughing idea calculation for schools and archas were	220.42
Configuration was made to this instruments and the closed form of the		in must be utilizate, the item a solution in the MECK mat. the driving factor for the straint of a started cell nave in contribution of dwellings. Repping up with the Jonne in more of panel by the part of the part of the part of the more capacity than is more required anyway. The shange can potentially add 10 annews of load on a large than average or parts, which could ultimately increase the rating of of sparts. The basic objection was that offers to requiring a spart of the basic objection was that offers to requiring a large activities to be per with a part of the parts of the parts of the large activities of the parts of the parts of the parts of the large activities of the parts of the parts of the parts of the large activities of the parts of the parts of the parts of the large activities of the parts of the parts of the parts of the large activities of the parts of the parts of the parts of the large activities of the parts of the parts of the parts of the large parts of the		220.5
Charlestoire were made to this instancement. Batterpoperated will mounted control devices [irridar in light swortcast] must fail in the "closed" [irridar in light swortcast] must fail in the "closed" [irridar in light swortcast] must fail in the "closed" [irridar in light swortcast] must fail in the "closed" [irridar in light swortcast] must fail in light swortcast [irridar in light swortcast] must fail in light swortcast [irridar in light swortcast] must fail in light swortcast [irridar in light swo	*)	House, at the commence defined in the the debilities of this		215 18
Charlestoire were made to this instantant to the first assessment to the control of evices (invited to the control of evices (invited to the control of evices) (invited to the evices) (invi		Minimal II any cost impact; at the panetboards addressed in this section are almost always going to be main breaker as opposed to main lug. Could add \$2.00, although the main factures.	Barriers over the lugs of panelboards supplied by a transformer secondary or feeder tap are now sequent.	215 15
Configuration were made to the instantements and the manufacture of the configuration of the		Whichly the farm additional trait as very few people sport to the looppied in in the first piles. Those that did were not fishely to looppied in in the first piles. Those that did were red fishely to that additional time and all among the supplied the red building of the first piles and all among the supplied the red building that the supplied the red building that the supplied the red building to the supplied the red building to the supplied the red building to the supplied to the supplie	The required antidoor Burnhaston must now be provided by an outdoor lighting outer, an exception was added for buildness or obscure stakeney, and the dimmer followedge 25 CLEU as as reset of	se zeralez
Configuration were made to the instruments. Assume that the second of the configuration were made to the decident of the configuration		Add, a 55,00 light to house that are final without a light in the lighting area. Not likely to octavistices.	Lighting and et is now required in Loanding aroun of the elliptics	10 70/AV1)
Clarification's were made to the intercements.		None, the target of this change is manufacturers.	Battery-operated wall-mounted control devices (similar to light swrtches) must (all in the "closed" position	210.70
		STORMAN AND ASSESSMENT OF THE PROPERTY OF A STORMAN AND ASSESSMENT OF A STORMAN ASSESSMENT OF A STORMAN AND ASSESSMENT OF A STORMAN ASSESSMENT OF	Clarifications were made to the bullacurements	210.65

		And the Alexander of the Control of the latter of the Control of Control	_
	systems, legally required standby, and elevators), the goordination must now extend to feeder circuits	simply require adjusting an adjustable trip circuit breaker, it could cost perhaps \$4,000 if a unique overcurrent device	
240 16		This is already required by the product standard, so no cost immand.	
34(4)4504	es containing	Likely no real world impact, as the was probably already allowed by inspectors. By the letter of the law, however, it is that binnefit.	2
	allowed in the	This was a practice that was quite rare, and is now probabled. This rould peterstally cost manner, but that cost is postly avoidable.	2
		These products are typically already listed, and they are reastly initial arrows. Extremely small impact.	
	be listed.	is never required and for	
247.2	ik	SPDs it would likely be impossible.	
	Clarification of what is considered objectionable	Not likely to have an impact, but if it does it could only yield realize.	
	Several clarifications were made to the rules	No financial Impact.	•
250,64(G)	Ventilation openings in a transformer (or other) enclosure must not be obstructed.	Nose, this was already a requirement of the leatur born.	
250.68	Aler pipe	more, classication No direct cost impact, although the added informational	
250.70	Edmirial revenient were made, and an infransition.	No direct cost impact, airroogn the added information that could Note is likely to arm installers with information that could save them money.	
250 100	The bonding requirements in hazardous locations were revised for accuracy.	No cost impact, as 501,30, 502,30, or 503,30 already required this	
250 109	Using a metal enclosure for part of the effective ground fault current path is still allowed, but	None, as this does not require anything that 250.4(A)(3) did not utimately require	
250,114	Ice-makers must now be connected to an equipment grounding conductor.	They almost certainty already were, but in very rare cases this could cost money.	
		Very seldom is FMC or LEMC used as the EGC Furthermore, italiness iteel FMC and LEMC are very rare, so this has very little impact. This would add a maximum of \$2.00 in the rare	
250,390		inspectors were likely already allowing this, but if they worten't this would be a cost benefit.	
	Existing ranges and dryers can use the uninsulated newfral of SE cable as the fault current path.	This is a cost saving in the somewhat rare instance that it comes up.	
250.148	AR to Came a hear must make the tiplicand to each other. The exception for nail plates was increased to allow	None, daylkuban	*
100.8	enforced thermosetting resin conduit without the extra protection	Mainted cost same, does not occur after.	
300.4(E)	Exception added to the protection requirements at metal corregated roof decking.	Possible substantial cost ravings if used. It could be argued that the cost already allowed this, because	9
300.4(G)	Insulating bushings for raceways must be in place before the conductors are installed	300.18 already required this	
300.5(A)		This could only be viewed as a cost savings, as previous vertices that term to allow the province.	
	Warning ribbons for underground service conductors	Minumal ent indeed with mitual about of erroce conductors are exceedingly rare. Usually an underground installation on the line side of the service is a service lateral,	
300.5	Corrosion protection requirements were expanded to	Mo impact, the was abready required by other code takes.	
300.11(C)(2)	Class 3 cables may now use the same permissions for	Potential cost vavings, although a Class 3 circuit is somewhat	•
300,14	Clarification was made to the free conductor length requirement.	None, clarification,	
	Whiting reached transitions are new specifically	If taken literally, this could be a financial hardship in the rare instances that it occurs, it is very unlikely that an impector would actually enforce this. The issue is already fixed for the	
300,17	Cablus are now included in the raceway fill section.	None, this was already required by the 3xx 22 section of the applicable raceway article.	
	An exception was added to allow wring methods for stairway exit discharge lighting in an exit stairway.	This could only be viewed as a zont savings.	
	New section clearly states the requirements for I	No direct cost impart, could save majory due to classification of requirements.	
	Continuition specifications for copper clad aliminum waste added	Mode, this is for menufactiment.	
10001.018	Clarifications were made about paights conductors.	15	
330.15(6)(2)	The temperature correction factor for raceways on southers were (servy) slightly reduced.	Depending on the support method used, this could be a cost benefit.	*
312:8(A)(3)	Sylving beengage that it is not transfer and charled.	This change is specific to spliced conductors that are 4 AWG or larger. If the rule is followed, no cost impact. If the rule is so at a part of the rule.	
	specific requirements for fasteness entering	No cost impact, as the fasteness come with the equipment. If they were misplaced, there is now specific guidance on what to use	
117,101	Enclosures regulated by Article 312 now must have it	It can easily be argued that this was afready required by 110.27.	
	Specific requirements for fasteners entering	No cost impact, as the fasteners come with the equipment. If they were misplaced, there is now specific guidance on what to use.	

	Spirit Service or a real or taken to the service of the service of the service of	witch enclosures	404.30
	The construction of the equipment usually arready satisfies	New requirement to limit access to live parts in some	
	-	New section addresses reconditioned switches	404.16
	no Shansal Impact	Cardination on percental uses of decourse	404,14(7)
		Back wire terminals only allowed for 15A circuits with 14 AWG wire	404 14(0)
N .		Exception that allows the installer to omd the neutrol at switcher reduced.	404, Z(C)
34	neme	Clastication to scope (wheless devices not included)	404.1
	This is already allowed in 250 118	A surrey is allowed at an EGE if baled.	376.40
	This is new allesiance, therefore could only said recover.	Heable Bus System is a new wring method bllowed in	A WHEN
	This is a new allowance, therefore model only save remore.	CHIP MEC	Article 369
		intelliged Buy Pipe is a new wiring method allowed in	162.10
	The same of the sa	Type ENT is now specifically allowed where	0.00
	This IV a new afference, therefore could anly save markey.	Type EBIT may now be manufactured in larger sites.	256.20
	This is a new allowance, therefore could only save money.	Manufactured wiring systems may now use EMT.	TOTAL BOX
	lype EM1 is very seldom buried, and most protection from dieleriporation is already required by 300.6. No impact.	Fithings must be identified for direct burial if they are	TOTAL BOOK
	-	seemely comsive influences	356 10(8)
	Street, this is already request in 200.5	Type LFNC is new specifically allmost districtables, with	352,44(0)
		Espandon httpgs are required at undergraund installations where the conduit enters an enclosure	
	No inguest, this is mainly explanatory text.	damage were made	352.10
	Morte, clarification.	Time FMC is not permitted to be reconditioned	343.2
	This is a new allowance, therefore could only save money.	Tocured and supported.	344,30
		Type RMC in fished walls is no longer required to be	200 200
	The it a new allegance District ecould only have remove	Type IMC in fished walks is no longer required to be	247 30
11	This is a new allowance, therefore could only save money.	Type IMC may row be manufactured in larger sizes	342,50
*	where the destination of the control	The besides with of H salle was classed.	# 2
	This is a new allowance, therefore could only save themes	tertain conditions	336,10(17)
		Type TC-ER cable is now allowed for service under	
*	Previous versions of the BIC only allowed NM cable in interconnections to be used in caposed applications or concealed for repairs, Now new construction can use them apposed. Could save large amounts of money in instances of annialistic or damage.	The restrictions for spliting NM cable without a box ware learned.	334 40
		The bending cultural MM cable was clothed:	334.24
	Many at the common and the property of the company		
	exhaust fore and cabinets. No impart.	past any cable connector	334 19
	This is already required in 300.15. This was already required at boxes, now applies to things like	Clarification on fill califer in raceway, was made.	WHILE
	morning method and its allowable over have been married at	multifamily dwellings	354, 30(7)
	None, clarification	o accessible affice	320 23
	The state of the s	Clarifications were easily to the rules regarding califes	314.27(1)
	Mona of the state	celling rece	
	Section 1 March 1970 and Section Specified to the Self-	Support methods for boxes that support ceiling fans were classified	314 27/C)
	No impact, source some with the product.	tannou etc	334.25
	anything unders our discuss to enter the side of a small limit.		314.24
	This was never addressed before, but it was also seldom installed it removes an option, but does not require	es entering through the side now have	
	This could have a cost impact of \$5.00 or so, but most people already do it this way to satisfy other requirements it is fairly well known that OSHA requires this.	w utilize a	WHE PL
	No lenguart.	Estimate revisions water made for accuracy	314.17
	required. If a person decided to use one, a larger box could perhaps be required, although it would be easy to design around the rule	Terminal blocks in boxes must now be considered	314 16/BN(6)

		and since on these equipment to Part V was britishly used		
		none, mete aren i panem care spaces so cara il ordin cappiy	Clarify allow about phermatics was added	517.10
	*	area is to be classified	Hew article for cannalis of votraction	Andr 512
	*	none, editorial only	clarified	503 30
	1	more, this is optional.	From Figure and honding in Class III Jocations was	201.10
	1	none, editorial only	Carding	502 30
	1	Model' Columnia	Grounding and bonding in Class II locations was	502.15
	-	1.00	Electrical sealing policy is specifically allowed for	
	*	and no it as summyration couplings with the locations amyway. Could be argued that this was required, improviding to a quantity because if the benchment of Chari II is chonnobut a compression fitting is slightly more than a set screw fitting. The insulableon technique is optional, however, so it does not presenting "at all and easily and the contraction of the set of the country of the set of the country of the set	Canted IMC and RMC are now specifically addressed.	502 10
	*	hone, editorial only	clarified	501 30
		And the Control of th	Greated and and bonding in Class I housibets was	201,100
		Mone, this was ultimated after any required.	added, learn were clarified	8.003
		These are new ways to satisfy existing requirements, so sould save money.	These protection techniques were added	500.7
	•	Marie	Closs III liquitions are more clearly defined	500.5
	-	will likely be provided by the manufacturer	claringanoss to the generator emergency shurrown	445.19
	-	water, slin (fluxulation)	Claring about 40 the Benefator discounters, loss were	445.18
	*	maching direct put the inge anything.	Stationary generators exceeding this must now be	445.6
	-	HORE, and was many account account to 1145, a print of	Clearances for AJC disconnects were added	140.14
	-	None, they are had the say already.	Exposed live parts for disconnects must have locaring	440 11
	×	Home, this is an optional way of heating or cooling the more	Batteria and thousans	440.8
	-	erhied previously		430 2
	*	None (10.3/8)	The GFFE setting for heat tape is claimed.	42578
	*	none this is outband	Meaning Californate from allowed in walls	427.29
	•	None, as this practice is extremely rare and was likely	s near bathtubs and showers are now	
	4	a cord-and-plug connection to an adjacent receptacle. It could be argued that this already applies	New requirement for grommet in cabinet if a trash	422 16(B)
	Ĭ	Perhaps \$1.00 per house that house a trash compactor with	Hew Part IXVII for germicidal irradiation luminumes	ATO PART NA
	*	the 2020 NEC due to UL 943 limitations.	faculties	410 184
	ľ	terminations	with tube lamps	430.71
	-	allowed (or even seen) this None, as these can be used in lieu of wire connectors for	Hamalboards are not allowed to be the attracted facility LED driver disconnects are required for luminaires.	408 43
	ľ	None, it is very doubtful that an AHJ would ever have	selecting an enclosure	408 38
		None, this was added in 2020 and relocated in 2023	In available fault current must be considered when	408,9
	i		Replacement panelboards and enclosures are	TOTAL BOX
		none or very little, as signage is already required	The requestrenest for eignage at para-Boards was	408.4(B)
	*	pone	Eircuit directories for switchboards and switchgear were clarified.	(04 : (4)
		Additional 50 50 per device specified in this section	Imperresidant receptacles are now required for loster care facilities, nursing homes, psychiatric hospitals, and areas of agricultural facilities accessible to the public.	406 12
		and the the 2013 that, at written the 2013 admit 16864 we reform to make the requirement more political, to the typically more put add that it appropriately.	Exceptions were added to the rules for receptation near ballstatis and Whiteers	406.9(C)
	Γ	tengangs. These products are out readily evident at the back.	All receptacies in wet locations must be Type Will	406 9(B)
	ľ	Name of the owner of the latter of the latte	must be capable of fully opening	TOP NAME NO
	1	HIGHE, Diving all Children.	The cover of receptacles in damp or wet locations	406.6(0)
	*	This would almost certainly only apply to airport terminals. Additioned cost of perhaps \$30.00 per raceit supplying floor receptuals in these areas.		426.4(6)
	*	Name, this is altreatly required wis 90.7.	GEPE is required for replacements of receptuales that	406.4(D)(B)
	•	Potential cot savings, albeit only in homes with aluminum branch circuit wiring		ans arpusi
	*	none clarification.		406 3(D)
and	24-Marie	Financial Impact	Overview	Section Control of the least

		71011	THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, NAMED IN	100
		-	New action from residing requirements	Autoria 772
	*	likely none	Cybersecurity concerns his COTS systems were added	70A. 7
	•	reparate batteries is quite rare. It is also worth noting that there are many are more required.	An ESS with separate batteries now must have a disconnect:	706 15
		nunn, dankeation	Line and a comment of a character of the	705.11
		Add SS 10 to a section of an all the little	compared design are replaced	700 32
		And the second s	Selective coordination must be muintained if	Trans.
		none Class 2 is on Donal	Clark tradects on what requests selling	702.24
		none, Class 2 is optional	Class 2 lighting is new addressed	100.11
		usually employ panetboards and switchboards, not switchgear. An SPD is already required for panetboards and switchboards.	Subje poster from added for switch gran	700 A
		at the small potentially add \$15k or more to emergency systems.	Redundant transfer equipment is now required in some emergency systems	700.5
		Virte: Beatly of the exactions cannot be taken advantage	Parallel operation of emergency sources is assistance.	700.4
			emergency vydem	700.3
		Cost savings	The All band con within the common around of the	695.15
1	1	Emilesings	Diesel powered fire pumps no longer require surge	695.7
		a damp or wel location	Wet location fittings from required as fitted five primps. Voltage drop requirements for fire pumps were	695.6
		You'y untail increase (\$50.00 per installation of fire pump?). although the installation is thely already designed and/or enforced this way anyway as many consider fire pump rooms.		
	57	every this is a chariff after	not fire pumps	1.50
	-	Controlled	Exceptions to the rapid shutdown requirement were added for arrays mult fire@pitters would be digitally.	690.12
	8	required for a floating building and/or floating PV array on a body of water	PV equipment on floating structures are now addressed	690 4(G)
		likely none, engineering is almost certainly going to be	Scording requirements for splant gains (larged	640.54
	1	Very relidion applies, probably already enforced this way.	other types of electrical equipment	680.50
		Very edition applies, probably already efficient this wey.	The cleanages around a foorthin were necessed to	680.41
			The clearances is much a but tab ween our essent to	000/0
		The first printing of the 2023 NEC shall be the code of	Equipotential bonding requirements expanded if Utah	
		small cost savings due to clarification	Europetherial hundrig residence or profit of a control	90.000
		Additional cost (\$50,00-\$100,00) for repaired motors, this was already required for replacement motors, so this would only apply to motors that are repaired without being	Renaired motors must be GECI-protected	
	ę.	Altered year paired by 200 ft.	Corrosive locations are more clearly defined, and the	58014
		conductors and cables in lieu of raceways, which is quite rare. Depending on the pool. \$10.00 to \$200.00	Previous edition allowed a conduit sleave near the	680 11
	ľ	No impact, this is already addressed elsewhere in the NEC.	New auction addresses some types of pool beaters	01.013
		continuing grows if they others 4800 meters. Mathyle smaller mateirs could be used on a work around, because, so there could be zero unpact.	The GFCI and SPGFCI requirements for pools, fountains, etc. now have general requirements in this section. The section refer 6x28 to it.	5.083
		does not already incorporate GFCI protection. No impact in most installations, such as residential adds \$2.000.00 to \$3.000 for yeary large (like, Olympic size).	Receptacles near welders must be GFCl protected	634.8
		Adds 55:00 cityles as come matallations.	remote location	675 43
		Act is a final train of the second of the se	Charge now required if the EVXE discount is in a	625 42
		Cost savings for small chargers	The count requirements for EVI were reduced	623.40
		flore, new option for reunificationers.	EMI Is now allowed for reconferenced whire systems	E04.100
		Cost names he some large transmissy multilidizent.	The rule for current-limiting overtimerest decires was	190
		worse, already required by 410.0 and 110.3(8).	Underwater bermaners are now addressed	555.18
		Adds perhaps \$150,00 to an initialistion at a boat dock	As entering disconnect is now required for share named outliets	4E 555
		None	The GFCI and GFPE sequipments for docks and similar were closhed	555.35
		that collection the impact	made.	555 15
		neiden (over 7) be and close to the wallet.	New bonding equipments were added	MARK
		Likely name, as this rule only applies to service equipment and voltages exceeding 250V to ground. Both are very	Distance of the Control of the Contr	OT THE
	ľ	luciber than Steel from the dock	electrical datum place	555.4
		Likely nane, as the service equipment is typically much	marinas, boatyards, and similar is relating to the location of the	
		uffices, attenuely most agree attuck facilities thely followed this good are about 4 (100 00 5 500 00)	Nonmetable cables are not allowed in consolled	25.65
The state of the s	Section 1	1	Contractor (Contractor)	

BIO.1 Integral	760.33 Surge pro	EMS acces	750.6 Entrey ma	Section/Article
Title of article revised for clarity	Surge protection is required for power-limited fire	EMS access requirements relocated from 732 and claimed	anagement systems (LMS) must be listed	Owendew
none	Adds about \$100.00 to a fire alarm system, if there isn't already SPD upstream. It is worth remembering that a fire alarm systems also each to that to be typical loggle- and multiple- station smide a larmy correspondy found in the allege.	These explains are never required, so no cost imput. Also, manufacturers will need to comply, so Utah's action on this change would not change anything in reality.	There typing are never anguined, to no cod impact.	Financial Impact
	*		-	Support
				13
				Modify