

Construction Code Communicator



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Lt. Governor Sheila Y. Oliver, Commissioner

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The President's Proclamation on National Building Safety Month

The following is an excerpt from the White House proclamation on National Building Safety Month, 2023. For the complete text, please see the following link.

[whitehouse.gov/briefing-room/presidential-actions/2023/04/28/a-proclamation-on-national-building-safety-month-2023/](https://www.whitehouse.gov/briefing-room/presidential-actions/2023/04/28/a-proclamation-on-national-building-safety-month-2023/)

“During National Building Safety Month, we recommit to helping every community in America make all of its structures safer, more sustainable, and more resilient for the future... Regularly-updated building codes and tough enforcement are key to safety — but we can each do our part to build a stronger, more resilient America. To keep your homes safe, we urge all Americans to change the batteries in your smoke alarms; to regularly check that your appliances, vents, plumbing, and electrical systems are working; and to keep an eye out for mold and pests that can make loved ones sick. If you live in wildfire country, find time to clear the leaves and debris from around your home. While there are few things more proudly American than do-it-yourself renovations, make sure your work is in line with local requirements designed to save lives or hire qualified contractors to do it for you. Finally, we urge everyone to support their local code enforcement inspectors and to give them the respect and thanks they deserve for keeping us safe and making all our communities more resilient.”

Source: Code Development Unit
(609) 984-7609

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The 40th Annual Building Safety Conference of New Jersey

The 40th Annual Building Safety Conference of New Jersey was held on May 3rd through 5th at the Hard Rock Hotel in Atlantic City.

The “Crackerbarrel” began our Conference, as it always does. This very popular event gives our guests the opportunity to hear from a variety of presenters in a short format style with a focus on new items of particular interest to the code enforcement community. Topics ranged from the pending electronic permitting system to an opportunity to meet with DCA staff to gain insight into all the current topic of discussion throughout the New Jersey code community. We also held our annual “Job Fair” at this year’s Conference which was successful for our Association partners and for those seeking positions in code enforcement throughout the State. The combination of the Crackerbarrel and Job Fair continue to rank as some of the most well received events at the Conference.

The centerpiece of the Building Safety Conference was, of course, the opportunity to recognize and honor those selected by their associations as Code Enforcement Professionals of the Year for 2023. We were honored to have our Director Edward Smith in presenting the awards at the annual awards luncheon.

The following awards were presented:



New Jersey State Plumbing Inspectors Association
Plumbing Inspectors of the Year
Russell L. Hall



Municipal Construction Officials of New Jersey
Construction Officials of the Year
Brian K Miller



New Jersey Association of Technical Assistants
Technical Assistants of the Year
Shannon L. Drylie



New Jersey Building Officials Association
Building Inspectors of the Year
Kevin Guilfoyle



Municipal Electrical Inspectors Association of New Jersey
Electrical Inspectors of the Year
John J Drucker Jr.



New Jersey Fire Prevention and Protection Association
Fire Protection Inspectors of the Year
David P. Starzynski

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Copies may be read or downloaded from the division’s website at: www.nj.gov/dca/divisions/codes.

Please direct any comments or suggestions to the NJDCA, Division of Codes and Standards, Attention: Code Development Unit, PO Box 802, Trenton, NJ 08625-0802 or codeassist@dca.nj.gov.

(The 40th Annual Building Safety Conference of New Jersey)



*New Jersey State Plumbing Inspectors Association
2023 Plumbing Inspector of the Year – Russell Hall*



*Municipal Construction Officials of New Jersey
2023 Construction Official of the Year – Brian Miller*

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(The 40th Annual Building Safety Conference of New Jersey)



*New Jersey Association of Technical Assistants
2023 Technical Assistant of the Year – Shannon Drylie*



*New Jersey Building Officials Association
2023 Building Inspector of the Year – Kevin Guilfoyle*

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(The 40th Annual Building Safety Conference of New Jersey)



*Municipal Electrical Inspectors Association of New Jersey
2023 Electrical Inspector of the Year – John Drucker*



*New Jersey Fire Prevention and Protection Association
2023 Fire Protection Inspector of the Year - David P. Starzynski*

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(The 40th Annual Building Safety Conference of New Jersey)

Congratulations to all for your hard work and dedication to improving code enforcement in New Jersey!

For the 2024 Building Safety Conference we are always looking for new and exciting events to add into an already very successful event. We are proud to say that the Conference continues to grow, and the Committee always seeks to meet the ever-changing needs of our community by offering new training opportunities. We are always on the lookout for new ideas, though! If you have an idea, please pass that along through your association or email us at education.unit@dca.nj.gov

At this time, I would like to offer special thanks to John Delesandro. John has accepted the position of Chief Bureau of State & Local Code Inspections within the Division of Codes and Standards so this was John's last conference as the Conference Coordinator. John is the man who has been responsible for ensuring the Building Safety Conference has become the premier code conference held in New Jersey. In addition to the Conference, John has been the Supervisor of the Licensing/Education Unit for over 20 years. Under John's active leadership we were able to navigate through the challenges posed to us during the Covid-19 pandemic and John was instrumental in seeing our Continuing Education Program transition to live online classes. Once again thank you John for everything you have done for the code community and good luck in our new position.

We hope to see you all next year at the Hard Rock Hotel May 8th through 10th. Please save the date and "like" us on Facebook for event updates, room locations and all other important information!

Source: Patrick Ryan
Office of Licensing and Education
(609) 984-7834

UCC Summary of Rule Changes - Spring 2023 Update

May 1, 2023, *New Jersey Register*

N.J.A.C. 5:23-5.3, 5.4, 5.19H, 5.20, 5.21, and 5.22 – Technical Assistant Certification – This adoption amends and supplements the licensing provisions of the Uniform Construction Code to incorporate certification of technical assistants to the construction official per P.L. 2009, c. 119.

→ for more information, please see "Jul 05, 2022" row at www.nj.gov/dca/divisions/codes/codreg/rule_proposals_adoptions.html

May 1, 2023, *New Jersey Register*

N.J.A.C. 5:23-6.8 – Rehabilitation Subcode, Materials and Methods – This administrative correction remedies this issue by incorporating the reference to Section 903.3.2 at N.J.A.C. 5:23-6.8.

→ for more information, please see "May 01, 2023" row at www.nj.gov/dca/divisions/codes/codreg/rule_proposals_adoptions.html

June 5, 2023, *New Jersey Register*

N.J.A.C. 5:23-2.15 – Licensure of EEMW mechanics – This administrative correction remedies the reference to the statute that enables the licensure of elevator, escalator, and moving walkway mechanics.

→ for more information, please see "June 5, 2023" row at www.nj.gov/dca/divisions/codes/codreg/rule_proposals_adoptions.html

Bulletins - www.nj.gov/dca/divisions/codes/resources/bulletins.html

- 13-1A, Chapter 3 of the one- and two-family dwelling subcode, N.J.A.C. 5:23-3.21 – Revised

Source: Code Development Unit
(609) 984-7609

Recent Legislative Actions Impacting Hotel and Multiple Dwelling Owners/Operators

Recertification – P.L.2019, c.202 requires owners of hotels and multiple dwellings to annually recertify the information on the Certificate of Registration (COR). This recertification is to ensure accuracy and will be required one year from the current Certificate of Registration (COR) issued month effective July 1, 2023. Please visit the DCA Service Portal at: <https://njdcaportal.dynamics365portals.us> to view a property's current copy of COR.

Tiered Inspections – P.L.2019, c.292 establishes a tiered inspection schedule for multiple dwellings. This would change the way cyclical inspections occur as follows:

- Inspections every seven years for multiple dwellings where no violations are found or where all violations have been abated by the first reinspection.
- Inspections every five years for multiple dwellings where all violations have been abated by the second or third reinspection.
- Inspections every two years for multiple dwellings where all violations have not been abated by the third reinspection.

Upcoming inspections can be viewed online at: <https://njdcaportal.dynamics365portals.us/ultra-bhi-home/>

Social Service Information - P.L. 2021, c.269 requires multiple dwelling owners to post, in English and Spanish, emergency contact information and the comprehensive social services information tollfree telephone hotline. The Department has updated the Certificate of Registration, also required to be posted, with this information.

New Lead Legislation - P.L.2021, c.182, requires multiple dwellings to be inspected for lead-based paint hazards periodically with the following exceptions:

- Dwellings that were constructed during or after 1978;
- Dwellings that have been certified to be free of lead-based paint pursuant to N.J.A.C. 5:17- 3.16(b) either after an abatement is completed or an evaluation has confirmed that there is no lead-based paint in the dwelling
- Multiple rental dwellings that have been registered with the Department of Community Affairs for at least ten years and have no outstanding lead violations from the most recent cyclical inspection performed on the multiple dwelling under the "Hotel and Multiple Dwelling Law" (N.J.S.A. 55:13A-1). Cyclical inspections currently occur every five years in multiple dwellings. All multiple dwellings constructed prior to 1978 and registered with the Department for at least ten years that have a Certificate of Inspection issued by the Department of Community Affairs, Bureau of Housing Inspection, are exempt from this requirement. A certificate of inspection means there are no outstanding violations. A multiple dwelling that has been registered with the Department for at least ten years with an open inspection that has no violations for paint is also exempt from this requirement.

Certificates of Inspection can be obtained online at: <https://njdcaportal.dynamics365portals.us/ultra-bhi-home/>

Additional information pertaining to the new Lead Law can be found on the DCA Website (nj.gov/dca/divisions/codes/resources/leadpaint.html). Questions may be emailed to leadlaw21pl182@dca.nj.gov.

Note: This requirement is in addition to the existing inspection fee requirements in N.J.A.C.5:10-1.12(h)4.

Human Trafficking – P.L.2013 c.51 requires training hotel and motel employees to recognize, and report suspected human trafficking. In 2018, the Department adopted amendments to N.J.A.C. 5:10 which requires a certification that all employees have been trained to recognize and report suspected human trafficking and have watched the informational video available on the Department's website. Owners are also required to maintain a record of the names and positions of all current employees, their positions, and the date they viewed the video.

Information and video can be viewed online at: nj.gov/dca/divisions/codes/resources/humantrafficking.html

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(Recent Legislative Actions Impacting Hotel and Multiple Dwelling Owners/Operators)

Hotel Sanitization – P.L.2020, c.37 established protocols for hotel sanitization in the wake of the COVID-19 public health emergency. The law requires the Department of Health (DOH) to issue protocols for the sanitation of each hotel and provides an outline of the minimum sanitation requirements. DOH is charged with developing guidelines and adopting regulations pursuant to this law, which are to be enforced through the Department of Community Affairs, Bureau of Housing Inspection. The Bureau intends to do this by requiring hotels to maintain a logbook certifying daily cleaning was performed in accordance with DOH protocols. An adoption to incorporate this requirement is currently pending review and approval.

Drinking Water Results – N.J.S.A. 55:13A-7.18 requires owners of multiple dwellings who are required to prepare a Consumer Confidence Report pursuant to the Safe Drinking Water Act (42 U.S.C. 300) or who receive a Consumer Confidence Report from the owner of a public community water system to post the Consider Confidence Report in each common area. Owners who are not required to prepare a Consumer Confidence report but are required to conduct drinking water tests by the DEP are required to post a chart showing the results of the water test in each common area. An adoption to incorporate this requirement is currently pending review and approval.

Hopefully, this article will assist you in staying current with the NJ Regulations for the Maintenance of Hotels and Multiple Dwellings (N.J.A.C. 5:10). If additional assistance is required, please visit our website at: <https://www.nj.gov/dca/divisions/codes/offices/housinginspection.html>

Source: Carmine Giangeruso
Bureau of Housing Inspections
(609) 633-6229

**Want to Become a New Jersey Licensed
Technical Assistant to the Construction Official?** 

Well, wait no longer, as it is now a possibility! As of May 1st, 2023, rules were published in the New Jersey Register pertaining to N.J.A.C. 5:23-5.19H, approving the certification of Technical Assistants to the Construction Official.

All are welcome to apply! Here are some frequent questions regarding the application process:

Do I need to apply if I already have a “99” number?

Yes, you do. The special and infamous “99” number, that was previously used to register for classes does not exempt you from applying to become a licensed Technical Assistant.

However, anyone with that “99” number, will be grandfathered. Which means if you hold a “99” number, you will only have to apply by filling out the application (which needs to be notarized), submitting that application to the mailing address at the top of the application along with a fee of \$91 (in form of a check or money order, payable to “Treasurer State of New Jersey”).

With a “99” number, you are **exempt** from taking the Technical Assistant course, as you’ve already done so.

What if I don’t have a “99” number, can I still become a licensed TA?

Yes, you can. You will have to submit the application and fee but in addition to that you will also have to submit the Technical Assistant course certificate, which can only be used if it was issued to you within the last 5 years.

(Revised 07/17/23 – Grammer error above, corrected.)

(Continued on next page)

(Want to Become a New Jersey Licensed Technical Assistant to the Construction Official?)

How long is my license valid for?

Licenses are valid for 3 years. Depending on the date the license was issued to you, it can expire either on January 31st or July 31st of the third year. For example: a license that was issued on 5/30/23, would expire on 7/31/26.

What are Continuing Education Units?

Continuing Education Units (CEU) are the requirements needed to renew your license each cycle. License cycles are every 3 years.

Licensed Technical Assistants are required 1.5 Administrative CEU's to renew their licenses every 3 years. Please note that licenses will not be renewed if the CEU requirements are not met.

Will I still be able to use my "99" to register for classes?

As of right now, yes, but at some point, in the relative near future "99" numbers will go away and will not be able to be used to register for class.

Where can I get the application?

You can reach out to our office, and we can email you a link to the application.

For further information about becoming a New Jersey Licensed Technical Assistant to the Construction Official, please contact the Office of Licensing and Continuing Education by email at education.unit@dca.nj.gov or by phone.

Source: Verlensky Joachim and Charles Nieves
Office of Licensing and Continuing Education
(609) 984-7834, TDD: (609) 633-6804.

Additional Energy Efficiency Packages and Additions

As you are aware, additions, as defined at N.J.A.C. 5:23-6.3, are required to meet new code as indicated at N.J.A.C. 5:23-6.32. This section of the Rehabilitation Subcode provides some exceptions to full compliance with new code standards. When it comes to energy subcode compliance, Bulletin 22-1, as referenced as N.J.A.C. 5:23-2.15(f)1vi, is also to be followed and also provides for some exceptions for additions such as the blower door testing. So, you may now be asking, what about the additional energy efficiency packages within Section R408.2 of the 2021 International Energy Conservation Code-R (Section N1108.2 of the 2021 International Residential Code). The bulletin does not address them as they are scoped within the 2021 codes to be a required add-on when there is total building compliance. Since an addition would only be portion of the building, compliance with the items listed in Section R408.2/N1108.2 would not be required. Since this does not appear explicitly clear, Bulletin 22-1 will be updated to reflect this.

Source: Rob Austin
Code Assistance/Development Unit
(609) 984-7609

New Duct Leakage Requirements for the 2021 IRC

Testing ductwork for air leakage has been a requirement since the 2009 International Energy Conservation Code ([IECC](#)), Residential provisions. This article is to inform applicants of the new requirement added to Section N1103.3.6 (R403.3.6 of the IECC-R), Duct leakage, in the 2021 International Residential Code (IRC) which reads as follows:

3. Test for ducts within thermal envelope: Where all ducts and air handlers are located entirely within the building thermal envelope, total leakage shall be less than or equal to 8.0 cubic feet per minute (226.6 L/min) per 100 square feet (9.29 m²) of conditioned floor area.

Historically, ducts located completely within conditioned spaces have been exempt from testing, the thought being that if air was leaking from the ducts into conditioned space, it did not negatively impact energy efficiency. However, testing in the conditioned space ensures the conditioned air travels to its intended designations helping ensure the thermostat is not inadvertently triggered, functions efficiently and as the system is designed, improves occupant comfort, and reduces customer call backs to the installer. The new allowable duct leakage rate is approximately twice the allowed post-construction leakage rate of ducts not within the thermal envelope. Also note, Section N1103.3.5, Duct testing, has a new exception which reads as follows:

Exception: A duct air-leakage test shall not be required for ducts serving heating, cooling or ventilation **systems that are not integrated with ducts serving heating or cooling systems.**

This exception is to clarify that that testing applies to dwelling units' primary heating or cooling system ducts. This 2021 change clarifies that H/ERV systems that are ducted separately from the distribution ducts serving heating or cooling systems are not required to have their ducts tested.

Duct tightness must be checked by leakage testing at the end of construction or at the time of rough-in. Having the two options provides flexibility to the builder. The test at the end of construction, if failed, could be more difficult to correct. The test after rough-in is more stringent. This is simply because it is probable that some of the ductwork will be disturbed during subsequent construction and, therefore, have a higher leakage rate than what was tested.

Note: A duct leakage test remains required for additions. Since the addition is new construction, the ductwork installed within this portion of the dwelling would be required to meet the duct leakage requirements. If the new ductwork is being extended from the existing dwelling, at a minimum, it would have to be isolated so it may be tested.

Source: Adam Matthews
Code Assistance Unit
609-984-7609

(Revised 07/17/23 – Exception above inadvertently cut off.)

Up, Up, and Away – NJDEP Flood Elevations Updated

This article is to alert you that the NJDEP filed an adoption to update the Flood Hazard Area Control Act Rules, N.J.A.C. 7:13, with the Office of Administrative Law on June 2, 2023. This means the rule will be in the July 17th New Jersey Register for final adoption and become effective as of the adoption date. From a UCC official standpoint, a prior approval; it is important that you contact your local floodplain administrator regarding the updated elevations and when they will be updating the local floodplain ordinance. One major item to note, the adoption will change the flood hazard area design flood elevation from being one foot above the FEMA 100-year flood elevation to now three feet above. When we are able to digest the full adoption, we will provide further information.

Source: Robert Austin
Code Assistance/Development Unit
(609) 984-7609

Habitable Attics is Not Deleted

Since the adoption of the 2021 International Residential Code, we have been receiving many phone calls asking why we deleted Section R326, Habitable attics? It may look like we made a change to the requirements, but hear me out:

Habitable attics was first introduced in the 2018 IRC at Section R325.6 which was a subsection of the Mezzanine requirements. This section was deleted because it conflicted with the NJ definition of a habitable attic, which was derived from the 1990 BOCA National Building Code.

The 2021 IRC, unamended version, has now moved habitable attics into its own section, specifically Section R326, Habitable attics. This move may appear that we completely deleted habitable attics from the code. However, this deletion is the same in 2021 as it was in 2018, it just may seem broader because it's now a complete section of its own with a few more requirements.

Section R300.1, General, is the starting point and it states, "For the purpose of applying this subsection, a habitable attic shall not constitute a story in a two-story dwelling." From here we go straight to the definition in Chapter 2:

ATTIC, HABITABLE. An attic that has a stairway as a means of access and egress and in which the ceiling area at a height of 7 feet above the attic floor is not more than one-third the area of the next floor below.

To not be considered a third story, the habitable attic must meet the definition. If it does not meet the definition, the new or existing house is to be constructed with VA construction per Table 601 of the International Building Code. For more detailed information regarding habitable attics, please see the following link for the article on page 8 of the Spring 2022 Communicator titled, "The Habitable Attic Provision in the New Jersey International Residential Code."

https://www.nj.gov/dca/divisions/codes/publications/pdf_ccc/CCC_Spr_2022.pdf

Source: Adam Matthews
Code Assistance Unit
(609) 984-7609

Communication is Key for Air Leakage and Electrical Outlet Boxes

Okay, so the title is a play-on-words I want to discuss regarding the air leakage requirement of the International Energy Conservation, Residential provisions (IECC-R) and Chapter 11 of the International Residential Code (IRC). For the 2021 edition of these codes, a new section was added, R402.4.6 (N1102.4.6), Electrical and communication outlet boxes [air-sealed boxes]. So now you can see the play-on-words here...not my best, but you get it. Here is the full section for reference:

R402.4.6 (N1102.4.6) Electrical and communication outlet boxes (air-sealed boxes).

Electrical and communication outlet boxes installed in the building thermal envelope shall be sealed to limit air leakage between conditioned and unconditioned spaces. Electrical and communication outlet boxes shall be tested in accordance with NEMA OS 4, *Requirements for Air-Sealed Boxes for Electrical and Communication Applications*, and shall have an air leakage rate of not greater than 2.0 cubic feet per minute (0.944 L/s) at a pressure differential of 1.57 psf (75 Pa). Electrical and communication outlet boxes shall be marked "NEMA OS 4" or "OS 4" in accordance with NEMA OS 4. Electrical and communication outlet boxes shall be installed per the manufacturer's instructions and with any supplied components required to achieve compliance with NEMA OS 4.

When you look at this section alone, it appears harmless. However, take a look at Table R402.4.1.1 (N1102.4.1.1.), Air Barrier, Air Sealing and Insulation Installation, and see the following "component" and "air barrier criteria":

(Continued on next page)

(Communication is Key for Air Leakage and Electrical Outlet Boxes)

Component: Electrical/phone box on exterior walls; Air Barrier Criteria: The air barrier shall be installed behind electrical and communication boxes. Alternatively, air-sealed boxes shall be installed.

At first glance, looks like they are conflicting. So, I asked the International Code Council. They condensed my inquiry down to a single sentence (we all know I'm long winded) and answered as such:

Q: Does the testing requirement for electrical and communication outlet boxes in Section R402.4.6 supersede the Electrical/phone box on exterior walls provision of Table R402.4.1.1?

A: No, Section R402.4.1.1 and Section R402.4.6 require that outlet boxes located in the building thermal envelope to be tested in accordance with NEMA OS 4 when they penetrate the air barrier in the building thermal envelope. Table R402.4.1.1 offers two options for the installation of outlets at the building thermal envelope. The first option is to install the air barrier behind the electrical and communication boxes. In this instance the box would not penetrate the air barrier and the tested and labeled boxes would not be required. The second option is to provide air-sealed boxes when they penetrate the air barrier. When the second option is selected, the use of NEMA OS 4 tested and labeled boxes in accordance with Section R402.4.6 is required.

Source: Rob Austin
Code Assistance/Development Unit
(609) 984-7609

2021 IRC Deck Footings

The 2021 International Residential Code (IRC) has clarified the depth of footings for free-standing decks (i.e., when the footings are required), when a deck should be frost protected and has also reorganized Section R507.3, Footings.

For starters, you'll now find a pointer to Section R507.3 at Section R403.1.4, Minimum depth. Historically, New Jersey used Section R403.1.4 to delineate when a deck footing was to be at minimum depth, 12 inches, or frost protected in accordance with Section R403.1.4.1, Frost protection. The depth of a frost-protected footing has not changed and should be in accordance with Table R301.2 where New Jersey is divided into two zones, SNJ and NNJ. For reference, SNJ consists of Monmouth and Burlington Counties and all counties to the south; NNJ consists of Mercer and Middlesex Counties and all counties to the north. The frost line depth for SNJ is 2'6" (30 inches) whereas NNJ is 3'0" (36 inches).

Section R507.3.3, Frost protection, is a new section for 2021 and clarifies when decks are to be frost protected by stating: "Where decks are attached to a frost-protected structure, decks shall be protected from frost." This has always been the case but the real issue deals with the update to free-standing decks. The reorganization of Section R507.3 would now require a free-standing deck of any size to the default minimum depth of not less than 12 inches below the undisturbed ground surface in accordance with Section R507.3.2, Minimum depth. Now, the exceptions to not needing a footing at all would rely on one of the two exceptions at Section R507.3.

Exceptions:

1. Footings shall not be required for free-standing decks consisting of joists directly supported on grade over their entire length.
2. Footings shall not be required for free-standing decks that meet all of the following criteria:
 - 2.1. The joists bear directly on precast concrete pier blocks at grade without support by beams or posts.
 - 2.2. The area of the deck does not exceed 200 square feet (18.6 m²).
 - 2.3. The walking surface is not more than 20 inches (508 mm) above grade at any point within 36 inches (914 mm) measured horizontally from the edge.

(Continued on next page)

(2021 IRC Deck Footings)

It is important to note attaching a deck to a structure that is not required to have frost protected footings, for example, a garden-type utility shed meeting exception 2 of Section R403.1.4.1, the attached deck would not need footings with frost protection. As for deck stairs (which has always been a gray area) until there is clarification in the IRC for a stair serving a deck that is attached to a frost protected structure, prescriptively, footings to frost will be required. However, a designer can utilize Section R301.1.3, Engineered design, and show calculations that the deck footings and the component the stairs are connected to would be capable of supporting the load of the stairs with only a minimum depth footing under the supporting stringers.

Another important change is found at Table R507.3.1, Minimum footing size for decks. The tributary area in square feet now has prescriptive sizes starting at 5 square feet which decreases the minimum footing sizes, whereas the 2018 IRC minimum tributary area started at 20 sq. ft. The former minimum was found to significantly oversize footings for smaller areas such as landing and stairs. For example, the diameter of a round footing can now be 8 inches at a tributary area of 5 square feet versus a 14-inch diameter for a 20 square feet area. Of course, interpolation is still permitted.

Source: Adam Matthews
Code Assistance Unit
(609) 984-7609

Energy Storage Systems, Fire Detection, and Rehab

As you may have noticed, the Energy storage systems (ESS) section of the International Residential Code (IRC) has been expanded for the 2021 edition. More specifically, the “Fire detection” is new at Section R328.7 and has specific language for detection for the space where the ESS is installed. For reference, the requirement for new construction is as follows:

R328.7, Fire detection.

Rooms and areas within dwelling units, basements and attached garages in which ESS are installed shall be protected by smoke alarms in accordance with Section R314. A heat detector, listed and interconnected to the smoke alarms, shall be installed in locations within dwelling units and attached garages where smoke alarms cannot be installed based on their listing.

The bigger question is, how does this apply to an existing dwelling? For this, one should visit the “residential materials and methods” at N.J.A.C. 5:23-6.8(h). More specifically, N.J.A.C. 5:23-6.8(h)1xiv states:

Section R328 shall apply to newly installed and completely replaced stationary storage battery systems.

Applying N.J.A.C. 5:23-6.2(b), scope of project, to the above means that if one installs an ESS in an existing dwelling, the space (i.e., room or area) where the actual ESS is installed is subject to the smoke alarms provision of R314 but would not require the entire dwelling to be brought up to current code. If this is an older dwelling with only battery-operated devices, they are not part of the scope of the project and can remain as-is.

Source: Robert Austin
Code Assistance/Development Unit
(609) 984-7609

When is an Addition... an Addition? – Update

This is an update to the “When is an Addition... an Addition” article that appeared in the Summer 2016 edition of the Construction Code Communicator.

As per N.J.A.C. 5:23-6.3, an Addition is defined as an increase in (1) the footprint area of a building or (2) the average height of the highest roof surface or (3) the number of stories of a building. To truly understand this definition, and apply it correctly, we need to visit the definitions in the building and one- and two-family dwelling subcodes, International Building and Residential Codes, respectively. Please note, the definition for area, building is not found within the 2021 International Residential Code, however, Section R201.3 (see below) should be referenced which permits the usage of definitions in the International Building Code.

R201.3, Terms defined in other codes, where terms are not defined in this code such terms shall have the meanings ascribed in other code publications of the International Code Council.

- * Area, Building – The area included within surrounding exterior walls (or exterior walls and fire walls) exclusive of vent shafts and courts. Areas of the building not provided with surrounding walls shall be included in the building area if such areas are included within the horizontal projection of the roof or floor above.
- * Height, Building – The vertical distance from grade plane to the average height of the highest roof surface.
- * Story – That portion of a building included between the upper surface of a floor and upper surface of the floor or roof next above (see “Basement,” “Building Height,” “Grade Plane” and “Mezzanine”). A story is measured as the vertical distance from top to top of two successive tiers of beams or finished floor surfaces and, for the topmost story, from the top of the floor finish to the top of the ceiling joists or, where there is not a ceiling, to the top of the roof rafters.

An example of an addition would be a covered patio being added to a home. Regardless of whether walls are being added, based on the definition of Building Area, extending the existing roof over a patio constitutes an addition due to the horizontal projection which adds to the footprint of building area.

An example of an alteration would be a dormer of any size in which the roof does not increase the average height of the highest roof surface, nor adds to the footprint area of the building. For instance, a Cape Cod style house, in which the roof will be completely removed, and new walls will be constructed in place of where the bottom of the rafters once sat. If the new roof rafters were installed at a lower pitch that did not increase the average height of the roofs surface, this would still be an alteration per the definition. Therefore, N.J.A.C. 5:23-6.6 would be the starting point for the design.

Source: Adam Matthews
Code Assistance Unit
(609) 984-7609

Han Solo, Exit Access, and Common Path

For my Star Wars fans, “Help me, Obi-Wan Kenobi. You're my only hope.” ...or in this case, my only exit.

Back in 2017, we issued a Construction Code Communicator article on page 10 of the Spring edition entitled “Single Exit Buildings.” We explained that in the 2015 International Building Code (IBC), when it came to Section 1006 and the term “maximum common path of egress travel distance,” the correct term to use for single exit buildings would be “exit access travel distance.” Here is the history and what has happened since.

At the time the Division noticed this issue, the 2018 IBC was already being evaluated and with that adoption, “Number of Exits and Exit Access Doorways” provisions at Section 1006 were amended, however, some remain in the 2021 IBC. I say some, as the national level caught on and fixed the items in Section 1006.3 but not in Section 1006.2. So now, the history:

(Continued on next page)

(Han Solo, Exit Access, and Common Path)

The 2021 IBC is altered to mimic the terminology of the 2009 IBC, Section 1014, Exit access, and 1015, Exit and exit access doorways. When we moved from the 2009 IBC, we “jumped” the 2012 IBC (which contained editorial modifications) and when we adopted the 2015 IBC, this is when these sections were merged on the national level, which we adopted as-is. When we noticed what the merge had caused an inconsistency between common path and exit access (after our adoption), we issued an article on page 10 of the Spring 2017 Communicator edition entitled “Single Exit Buildings.” Here, we explained there was an issue with the tables in Section 1006 of the 2015 IBC. When we adopted the 2018 IBC, we attempted to correct this in our amendments by changing “common path” to “exit access.” In the meantime, the national had caught on to this issue and only fixed half of it for the 2021 IBC, hence the NJ modifications to Section 1006.3, Egress from stories or occupied roofs, essentially going away but Section 1006.2, Egress from spaces, still needs the modifications.

Moving further, Section/Table 1006.2.1 of the 2021 IBC are modified by the State of New Jersey per N.J.A.C. 5:23-3.14 per the reason above and can be viewed as modified at <https://codes.iccsafe.org/content/NJBC2021P1>.

In review of Section 1006.2.1 of the 2021 IBC, NJ edition, it states that **two** exits or exit access doorways from any space shall be provided where the design occupant load or the exit access travel distance exceeds the values listed in Table 1006.2.1. So, if there is just **one** and therefore, no choice in exits, the exit access travel distance is all common since it leads you to the same exit and remains the only exit access distance. This section implies that you are leaving a building or a room, but this is not fully the case. One should start with the charging text at Section 1006.2, Egress from spaces, which it acknowledges that areas or spaces, not just a room, shall be provided with the number of exits **or access to exits** in accordance with this section.

Putting this all together, the travel distances noted in Table 1006.2.1 of the 2021 IBC, NJ edition, apply to single exit spaces, as per Section 1006.2. If one cannot meet the travel distance from the space (or room, or building), another exit access must be provided.

May the force be with you, or really, the proposals submitted to the ICC in further modifying these sections in the 2024 edition.

Source: Robert Austin
Code Assistance/Development Unit
(609) 984-7609

Pool Pump Motors

In the electrical subcode world, there has been some discussion regarding pool pump motors with factory installed cords. There is a perception that a motor that comes with a pre-installed cord cannot be changed without violating the listing. There may be some truth to that, but before we automatically make that assumption, one must refer to the installation instructions for the motor itself and compare that to the requirements found in Article 680.8 of the electrical subcode, the 2020 NEC/NFPA 70.

Pumps are listed for use in either permanent or storable pools. Pumps listed for permanently installed pools are so identified and additionally marked “Do Not Use with Storable Pools” and for pumps for storable pools the additional marking will state “Do Not Use with Permanently Installed Pools”.

The following clauses from UL 1081 (7th Edition, dated 2020-07-23) detail the key requirements for the power supply cord for a permanently-installed pump with a maximum 3 foot cord, along with the UL 1081 definitions related to this type of pump:

(Continued on next page)

(Pool Pump Motors)

- 4.8 PERMANENTLY-CONNECTED UNIT – A unit that is intended for connection to one of the applicable permanent wiring systems in accordance with the National Electrical Code, ANSI/NFPA 70.
- 4.10 PERMANENTLY-INSTALLED UNIT – A unit intended to be fastened or secured in position or permanently connected to a water circulating system.
- 12.1.2 A cord- and plug-connected unit shall be provided with a permanently attached flexible cord of a water-resistant type, Type SEW, SEOW, SJW, SJOW, SJEW, SJEOW, SJTW, SJTOW, SOW, STW, or STOW. Both the cord and the attachment plug shall not be rated less than the rated voltage of the unit. The ampacity of the cord shall not be less than the current rating of the unit, and the current rating of the attachment plug shall not be less than 125 percent of the current rating of the unit.
- 12.1.4 The cord length for a storable pool pump shall be a minimum of 25 feet (7.62 m). The cord length for permanently-installed units shall be a maximum of 3 feet (0.91 m). The length is measured from the point at which the cord emerges from the unit to the face of the attachment plug.
- 12.1.5 A permanently-connected unit that is provided with a maximum 3 foot (0.91 m) long cord shall have a grounding-type attachment plug with a fixed grounding contact.
- 12.1.6 The grounding conductor shall not be smaller than the circuit conductors in the cord.
- 12.1.7 The grounding conductor of a permanently-connected unit with a maximum 3 foot (0.91 m) long cord shall be minimum 12 AWG (3.3 mm²) copper.

So, the bottom line is, if a UL listed/certified pump for permanently installed pools comes out of the box with a cord longer than 3 feet or does not contain a #12 grounding conductor, these products should be reported to UL Market Surveillance group (<https://www.ul.com/resources/market-surveillance-departments>), and the cord must be replaced with a wiring method complying with the electrical subcode.

Source: Scott Borsos
Code Assistance Unit
(609) 984-7609

Scope of Work and Materials and Methods 

The Office of Regulatory Affairs has heard that some officials may be having trouble applying N.J.A.C. 5:23-6.8, Materials and methods, to the scope of work on a particular project. The best way to explain is to provide an example.

Let's say a contractor is installing a small 5.8kw AC module system on a single-family detached ranch style home. Plans are submitted and requested by the applicant to be reviewed under the previous code cycle by requesting application of the grace period allowed by N.J.A.C. 5:23-1.6. Since this photovoltaic (PV) system is being installed on an existing dwelling, per N.J.A.C. 5:23-6.1(a)1, the rehabilitation subcode will only apply (for electrical) unless directed to N.J.A.C. 5:23-3.16, the electrical subcode.

The first step in using the rehab subcode is to classify the scope of work based on the six categories, as defined in N.J.A.C. 5:23-6.3. Here, we find that the installation of a PV system is an alteration and must comply with N.J.A.C. 5:23-6.6. The next step is for a subcode and inspector alike to review alterations pursuant to N.J.A.C. 5:23-6.6 and determine that all applicable sections have been met. The key word here is "applicable." Many officials may use Bulletin 98-1 (The Rehab Matrix) as a reference guide for what sections in the UCC are applicable. Remember that the matrix is a tool, and the actual code sections should always be reviewed. But, just for the sake of explanation: start at the top of the alteration (6.6) column and you will see that the first row shows that certain materials are prohibited. The second row of the same column states that work shall not diminish structural strength or system capacity. Row three brings us to materials and methods (6.8), and row four for new building elements (6.9).

Moving further, let's address where we believe the confusion may be: N.J.A.C. 5:23-6.8.

(Scope of Work and Materials and Methods)

Solar PV systems are in the electrical subcode (NEC) in Chapter 6, specifically Article 690. When applying the rehab subcode, N.J.A.C. 5:23-6.8(d) establishes the sections in the electrical subcode that are requirements for electrical materials and methods. N.J.A.C. 5:23-6.8(d)7 states “all of chapter 6 entitled “Special Equipment,” meaning all of chapter 6 of the NEC is required; however, N.J.A.C. 5:23-6.8(a) states that:

“The following requirements shall be met for materials and installation methods for all items that are part of the applicant’s proposed project for all categories of work other than repair.”

The key words here are “items that are a part of the applicant’s proposed project,” or, in other words, their scope of work.

More specifically, when it comes to officials applying Section 6.8(d)7 to solar projects within older homes, it is only to be applied to the parts of the applicant’s proposed scope of work; again, the words to remember here are “scope of work.” So, this leads to Article 690.47, Grounding Electrode System, and some officials interpreting this as a required upgrade at time of installation. For reference, article 690.47 states that a building or structure supporting a PV array shall have a grounding electrode system installed in accordance with article 250 of the NEC.

Because the work undertaken on an existing structure is rehab, the existing grounding electrode system is considered compliant with Article 250, thus, no additional work is required. Additionally, the grounding electrode system is not within the scope of the applicants proposed project as Section 6.8(a) states. The only requirement under alterations to update the grounding electrode system is very clearly stated in Section 6.6(e)10, Any replacement to the electrical service equipment shall require that the grounding electrode system be updated to the requirements of Article 250 Part III of the electrical subcode.

If, upon inspection, a grounding electrode system is not compliant, the inspector shall inspect the project as applied for on permit and issue an approved/not approved sticker as necessary. If the official feels necessary, a separate Notice of Violation (NOV) should be issued to the property owner to repair said violation, not to the installing contractor.

Source: Michael Szwed
Office of Regulatory Affairs
(609) 984-7672

PV System Grounding and Bonding – Update

Within the Summer 2015 CCC, we provided an article on page 10 regarding photovoltaic (PV) system disconnects in relation to the bonding of the grounded conductor to the enclosure. This article provides further guidance to make this issue clear. This is because the issue was not fully addressed in the National Electrical Code (NEC) at the time of that article’s publication. Back then, NFPA had not taken a position as to what to label this type of disconnect.

In comes the 2020 NEC to specifically address this issue. Article 250.25 requires that equipment connected on the supply side of service disconnects comply with Article 250.24.

This new section has taken the ambiguity out of the bonding requirements for PV system disconnects. PV system disconnects are now treated like service disconnects, and the grounded conductor must be bonded to the enclosure.

Source: Scott Borsos
Code Assistance Unit
(609) 984-7609

LPG “Propane Services” Licensing & Permit Requirements

This article addresses two key liquefied petroleum gas (LPG) issues: (1) LPG container removal and permit requirements, and (2) qualifications for issuance of a permit to perform propane services work, including but not limited to, container removals.

The Director’s Office, via the LPG Safety Unit, regulates LP-Gas marketers and the maintenance or installation of new and existing systems through N.J.A.C. 5:18 and its adopted standard, NFPA 58. These regulations, in conjunction with N.J.A.C. 5:23 3.11(j)4, note that LPG systems (vapor only - 2,000-gallon w.c. or less) fall under the local enforcing agencies jurisdiction; these systems will be addressed in this article. All LPG container removals require a permit, and the process is basically what is required at installation, but reverse. The initial installation required either a mechanical permit or a plumbing permit and that permit type would also apply to the removal. If the LPG system is being changed (i.e., container sizing, location etc.), please refer to Bulletin 09-1 in the UCC for permit requirements.

Permits aside, who qualifies to submit a permit and who may perform the work? Effective August 21st, 2007, the Propane Gas Customer Protection Act was adopted in New Jersey. To ensure that propane services are being performed by qualified individuals, the act lays out criteria so the authority having jurisdiction (AHJ) can expedite a permit to licensed qualified contractors. These regulations in conjunction with N.J.A.C. 5:18, N.J.A.C. 5:23, N.J.A.C. 13:32, and N.J.A.C. 13:32A stipulate who may perform propane services in New Jersey.

So, what are propane services? N.J.S.A. 52:27D-510, Definitions relative to propane gas service contracts, states: “Propane services” or “services” means the performing of safety and leak testing of, and the performing of installation, maintenance, repair, removal, adjustment, and other services to, propane appliances including, without limitation, ranges, water heaters, heaters, furnaces, containers, and other propane fueled systems, for residential and commercial applications. (See also, N.J.A.C. 13:32-1.3 & 13:32A-1.2)

The act is to protect LPG customers from unqualified personnel performing the services as defined above. That begs the question, who can perform propane services in New Jersey? Well, those persons are:

- Licensed Master Plumber;
- Licensed HVACR contractor;
- DCA licensed LPG marketers (exempt applicant);
- Propane Service Certificate holder issued by DCA; or
- Single Family Homeowners (exempt applicant) who must own the LPG equipment and do the work.

A permit applicant not meeting one of the applicable criteria above would not be granted a permit. In this case, the permit applicant should be informed of who may do that type of work.

For further information, please see the Fall 2022 Construction Code Communicator article on page 16 and 17 regarding LPG, https://www.nj.gov/dca/divisions/codes/publications/pdf_ccc/CCC_Fall_2022.pdf

Anyone requiring further assistance regarding LPG tank removals or propane services, please contact the LP-Gas Safety Unit at (609) 984-4257 or LPgas@dca.nj.gov.

Source: Joseph Imburgia
LP-Gas Safety Unit
(609) 984-4257

Underground Storage Tank Closures



Please see the information below from New Jersey Department of Environmental Protection (NJDEP) Section Chief Michael Justiniano, regarding a list of certified individuals and firms that perform services on regulated and unregulated heating oil tanks as well as the 95-1 Bulletin Family that you can find in the UCC.

(Continued on next page)

(Underground Storage Tank Closures)

Code inspectors are reminded that the closure of an underground storage tank (UST), whether the tank is removed or abandoned-in-place, must be conducted by a contractor certified for underground storage tank closure pursuant to the Underground Storage Tanks regulations at N.J.A.C. 7:14B. A list of certified firms can be found in the following links, available through the NJDEP DataMiner reports.

[All NJDEP Certified UST Firms](#) & [NJDEP Certified UST Firms by County](#)

For ease of review, you can export the report as a PDF or Excel file. To verify the certification for a firm to close your underground storage tank, look under the “Cert Type” column in the table on the right side of the page for CLOSURE (Can close any UST) or HHO CLOSURE (Can only close heating oil USTs).

No. 95-1D	Revised, Sept. 2022 (Supersedes Bulletin No. 88-8)	Removal/Abandonment of Underground Storage Tanks Regulated by DEP
No. 95-1C	Code Ref. Update, Sept. 2022	Installation of Underground Storage Tanks Regulated by DEP
No. 95-1B	Code Ref. Update, Sept. 2022 (Supersedes Bulletin No. 88-3, 91-4, & 93-1)	Removal/Abandonment of Residential Heating Oil Tanks and Other Heating Oil Tanks Under 2001 Gallons
No. 95-1A	Revised, Sept. 2017 (Supersedes Bulletin No. 92-2)	Installation of Residential Heating Oil Tanks and Other Heating Oil Tanks Under 2001 Gallons
No. 95-1	Revised, Sept. 2017	Flammable and Combustible Liquid Storage Tanks

Source: Anthony Menafro
Code Assistance Unit
(609) 984-7609

Medical Gas Revisited



I would like to look back on an article written in the Summer 1998 Communicator in reference to medical gas systems because it's been quite some time since we have revisited this topic. The 1998 article discussed how NFPA 99 provides guidance on proper pipe sizing, materials, pipe joints, freeze protection, etc., through utilization of the 1996 National Standard Plumbing Code (NSPC). Those statements are still true with regards to the need to comply to NFPA 99 - Health Care Facilities Code. Today, we refer to the 2021 NSPC section 14.3 for Medical Gas and Vacuum Piping Systems. As per NSPC 14.3.2, "Installers, including brazers, of medical gas and vacuum piping systems shall meet the qualification requirements of ASSE Standard 60010 Medical Gas Systems."

This means that you must be a qualified and certified medical gas installer in order to install such systems. Many times, the certified individual is not yet known at the time of the project's submission, so this should not hold up the review and release process. The applicant must provide you with a copy of the certified installer's credentials prior to finishing out the inspection process.

As far as the inspections are concerned, N.J.A.C. 5:23-2.20, Tests and special inspections, still applies as the local field inspector's responsibility is to verify the amounts of medical gas and vacuum stations are as listed on the permit application while the special inspector shall provide an inspection report stating that the installation meets or exceeds the engineer's design. As stated in N.J.A.C. 5:23-2.20(a)1, "...tests conducted by persons authorized to conduct such tests in accordance with this chapter are not required to be witnessed by the local enforcing agency..." This test still requires that the system has been cleaned and purged in accordance with NFPA 99 and it is sized to meet the demand.

Source: Anthony Menafro
Code Assistance Unit
(609) 984-7609

Gas Pipe Sizing Guidance

According to the 2021 International Fuel Gas Code (IFGC), there are several gas pipe sizing tables that you will find in Chapter 4. The first one listed is Table 402.4(1) which is for Schedule 40 Metallic Pipe, Natural Gas of less than 2 psi with an 0.3 in w.c. pressure drop and a specific gravity of 0.60. This Table is not listed in the 2021 International Residential Code(IRC). The first table in the IRC is Table G2413.4(1) [402.4(2)] which is for Schedule 40 Metallic Pipe, Natural Gas of less than 2 psi with an 0.5 in w.c. pressure drop and a specific gravity of 0.60. The Table G2413.4(1)/402.4(2) is the normally used table for Schedule 40 Metallic Pipe as it represents the most commonly supplied natural gas from the Utilities. However, that is not the only way to verify that the piping is sized correctly. You can submit an engineered design or reach out to the Utility that is providing the natural gas and ask them to verify that the table properly meets their supply loads for specific areas.

There are many older areas in some towns that have not updated their infrastructure so the loads may not be correct. If this is the case, please provide the response from the Utility that reflects the proper supply load for the area and your sizing criteria with your permit submission to the Code Enforcement Department so that the outcome of the final application is optimum for the fuel burning appliance/equipment being supplied. Also, should you be proposing to install a larger consumption fuel burning appliance/equipment, such as a standby generator, the Utilities usually have a form to list the existing BTU loads as well as the proposed BTU load for the new appliance/equipment to verify that the existing gas line and/or meter can handle the additional load. Code officials cannot hold up the plan review and release of the application waiting for the Utilities' verification as it is not a necessary prior approval, but it may be a good idea to make the applicant aware of this service provided by the Utility.

Source: Anthony Menafro
Code Assistance Unit
(609) 984-7609

New Jersey Department of Community Affairs
Division of Codes and Standards
101 South Broad Street
P.O. Box 802
Trenton, NJ 08625-0802

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