COLORADO FIRE & LIFE SAFETY

JOURNAL - SUMMER 2025

COLORADO
Division of Fire Prevention & Control
Department of Public Safety

INSIDE THIS EDITION

Sunset Review Statement

"The Colorado Office of Policy, Research and Regulatory Reform is currently conducting a sunset review of the Fire Suppression Program. Analysis is performed to determine if the Program is necessary and should be continued, modified, or repealed. To provide input on this review, please visit COPRRR's website."

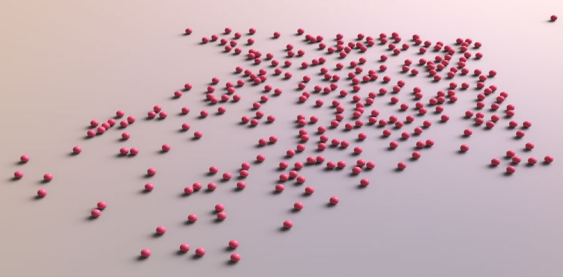
Mentorship Today Produces the Leaders of Tomorrow

By: Jaeger Luke, Professional Development Unit Chief

Thorough my educational journey there has been a phrase that is continuously repeated in almost every project management class I have taken, "Every leader has the ability to be manager, but not every manger has the ability to be a leader." Being a leader means continuously working on oneself in addition to investing time in others. In the Professional Development Unit (PDU), we have the opportunity to accomplish that every day. Whether that be helping Authorities Having Jurisdiction (AHJ) with needed continued education, assisting inspectors (building / fire) with navigating the code, or simply connecting code professionals with subject matter experts (SME) the PDU is there to assist. In the last couple of years, I have been fortunate enough to obtain two individuals who became mentors to me. Not only are these women exceptional leaders but wonderful managers! Having them as shining examples pushes me to succeed but also inspires me to assist and help others achieve their own goals. This is why I love being the Chief for the Professional Development Unit!

Being outfitted with a well-balanced team of building and fire code professionals, along with some of us having field installation background, we can offer a comprehensive outlook of the code world. Utilizing the experience and knowledge everyone within the team can help those that need it. Working for a state agency we interact with several individuals from many different walks of life. If we cannot assist you with the problem ourselves, we will do our best to find the best answer possible. The team is fully committed to the education of code professionals in Colorado and strives every day to better those among them. From the building code side, we have Field Training Officers (FTO) Ortiz and Remy working on a solution in Montrose to assist with inspection expectations involving fire walls, barriers, and penetrations. This collaborative effort between Montrose Building Department, the PDU, contractors, and vendors should be a benefit to those not only in Montrose but other stakeholders across the state. From the fire code side FTO Matthew and I will be assisting Bennett Watkins Fire with joint inspections on a large complex. We will assist Bennett Watkins Fire Prevention personnel by adding valuable experience and knowledge to their already well-versed and experienced team. All in the effort to help protect their firefighters and assisting agencies.

To close, I want to steal something from Chief Michael West's retirement speech that really reverberated with me. "My greatest accomplishment is being a mentor for others. Watching them grow and become leaders within the fire community and then turn around and be mentors for the next generation." The law of multiplicity. Here at the Professional Development Unit, we strive to better ourselves so that we can turn around and be better mentors for YOU. I look at this as the peak of servant leadership, improving ourselves every day so that we can help all the communities that reside within our great state. I repeatedly tell my team that the knowledge and mentorship we share in this lifetime will outlive us. We may never get to see the full fruit of our labor, but the benefits will last lifetimes. All that we do is for the betterment of communities, the safety of firefighters, and the pursuit to make the Division of Fire Prevention and Control the premier state fire agency in the United States of America.



An Inspection Scenario

By: Craig Montoya, Fire Plans Examiner

Recently, I had the honor of joining a local fire department to conduct a joint inspection of a large facility—a three-story, wood-framed building equipped with fire sprinklers. The survey was going as expected, with no major concerns. However, I could only get through half of the inspection, as I had other business to take care of.

The next morning, I was set to return at 8 am when I received the dreaded text: “Fire at facility last night.” In our field, that message is always dreaded, but this one hit differently. Just the day before, I had inspected this very building, and I was about to head back when the news broke! I quickly notified my chain of command, enlisted help from colleagues, and made my way to the facility.

As I headed there, I felt knots in my stomach, spiraling thoughts of “What did I do wrong?” and “Why did this happen?” My role is to prevent such disasters; was this real? Emotions flooded my mind during the drive.

Upon arriving, I conducted interviews, collaborated with the DFPC’s investigation team, and worked alongside our partners. A few clear truths surfaced: We cannot stop every fire, nor can we predict when they will occur. Yet, when fire strikes, FIRE SPRINKLERS SAVE LIVES! This incident was controlled and suppressed by a single 5.6 K-factor sprinkler head. Countless lives—those of staff, residents, and first responders—were saved. Millions in property damage were averted, economic stability for the community was preserved, all thanks to a sprinkler system I REGULATE!

This event unfolded just weeks after returning from the National Fire Sprinkler Association (NFSA) Conference and Expo. The data I had absorbed then played out right in front of me. The conversations with passionate advocates from Common Voices, individuals directly impacted by fire, echoed continually in my mind.

To all prevention professionals, our work may often go unrecognized, as it is difficult to quantify what does not happen. We must remain diligent. While the world may not always see our contributions, we understand the importance of our mission.

Be vigilant and aware, friends; the world depends on us.

For more information on the NFSA, please visit NFSA.org.

For more information on Common Voices, please visit Fireadvocates.org.

Bicycle Safety on the Rise!

Community Risk Reduction Times, Summer 2025
By Dane Van Loon, NW CRR Specialist

WHAT TO KNOW ABOUT BICYCLE CRASH SAFETY

Bicycling is a healthy, eco-friendly, and enjoyable way to get around. It does come with risks, especially when sharing the road with motor vehicles. Understanding crash safety can help cyclists avoid injuries and stay protected on every ride.

Wearing a properly fitted helmet is the most effective way to reduce head injuries in a crash. Look for helmets that meet safety standards (CPSC, ATSM, or Snell) and replace them after any major impact of every 5 years.

Bicycles are considered vehicles in most states, so follow the rules of the road. Stop at read lights and stop signs, yield to pedestrians, and use hand signals. This reduces confusion and helps prevent collisions.

Crashes often happen when drivers don't see cyclists. Wear bright clothing, use front and rear lights even during the day, and add reflective tape or gear. Ride in a straight line and signal your turns to help drivers anticipate your movements.

Most serious crashes occur at intersections, in low light conditions, or when riding against traffic. Stay alert in these areas, ride defensively, and avoid distractions like headphones or phones.

If you're in a crash, get to safety, check for injuries, and call 911 if needed. Document the scene, exchange information wit many drivers involved, and file a police report. Even minor crashes should e medically evaluated, especially for signs of concussion or internal injury.

While not every crash can be prevented, taking steps to protect yourself, like wearing a helmet, staying visible, and riding smart can dramatically reduce your risk of serious injury. Bicycle safety starts with you, and small habits make a big difference.

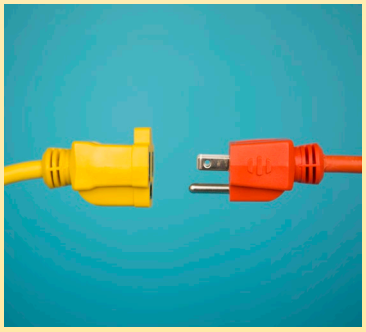
DFPC Code Adoption: Colorado Model Electric Ready and Solar Ready Code (1 of 2)

By: Jack Howard, Building Inspector and Plans Examiner

On August 15, 2025, the Division of Fire Prevention and Control (DFPC) will adopt the Colorado Model Electric Ready and Solar Ready Code (CMESRC). The CMESRC will impact construction across Colorado including public school construction projects.

Public school construction projects submitted to DFPC for permits will be subject to the requirements of CMESRC. Separate plan sheets will be required for each of the three aspects of CMESRC; Electric Ready, Solar Ready, and Electric Vehicle Ready.

Electric Ready plan sheets shall include, but not limited to:



- All branch circuits, conduit and/or raceways, junction boxes, and receptacles sized to accommodate future electric equipment or appliances, as applicable.
- Reserved physical space for future electric equipment or appliances.
- Electrical capacity and reserved physical space for circuit breakers in the main electrical service panel and/or subpanels are properly labeled.
- Location for condensate drainage where combustion equipment for space heating and water heating is installed.

Solar Ready plan sheets shall include, but not limited to:

- Location and size of the solar-ready zone.
- Structural design loads of roof dead load and roof live load.
- Pathways for routing of conduit labeled as “Potential Pathway” from the solar-ready zone to the electrical service panel.
- The main electrical service equipment and/or panel shall have a reserved space and ampacity to allow installation of a two-pole or three-pole circuit breaker for future solar electric. This space shall be labeled “For Future Solar Electric.”
- Additionally, where the solar-ready zone is on an existing roof, a structural analysis of the roof structure will be required.

DFPC Code Adoption: Colorado Model Electric Ready and Solar Ready Code (2 of 2)

Electric Vehicle Ready plan sheets shall include, but not limited to:

- Number and location of EV capable light spaces.
- Number and location of EV capable spaces.
- Number and location of EV ready spaces.
- Number and location of EVSE installed spaces.
- Locations of minimum sized conduit and termination points serving the aforementioned parking spaces with reserved capacity for each EV space based on the requirements of the CMESRC.

Substantial Cost Differential Waiver:

- Submitted with permit documents
- The burden of proof is upon the applicant to provide substantiation of a cost differential, such as quotes or other licensed design professional analyses to DFPC
- "Substantial cost differential" means costs incurred as a result of compliance with the requirements of the CMESRC would exceed one percent of total mechanical, electrical, and plumbing construction costs inclusive of materials and labor.

Major Renovations and Additions:

- Major renovations will include space reconfiguration of more than 50% on all floors.
- Additions with combustion equipment will be required to be electric ready.
- Additions with 1000 sf of properly oriented roof area will be required to have a solar-ready zone as required by CMESRC Section CS402.1.
- New parking spaces associated with major renovations and additions will be required to comply with CMESRC for Electric Vehicle Ready

(Permits and inspections will also be required by DORA for portions of the CMESRC that are regulated by DORA)

The Limits of Data in Community Risk Reduction

By Chuck Altvater, CRR & Education Branch Chief

Data is powerful. In CRR, we use it to dive deep into a community's structure—both physical and social—to understand its geography, building stock, and transportation arteries. We analyze its economy and regulatory framework and identify the many visible and hidden communities within. We also use data to review and quantify our emergency responses.

In this way, data becomes the heart and soul of Community Risk Reduction. But even the best data has limitations. If we rely on it too narrowly, we risk overlooking real and present hazards.

CRR specialists use data to complete Community Risk Assessments and identify risks from nine perspectives: demographics, geography, building stock, public safety response agencies, community service organizations, hazards, economic factors, past loss history, and critical infrastructure systems.

Because time is linear, this data reflects what has already happened and what currently exists. We use it to anticipate future events, but it can't fully predict them.

For example, a CRR specialist might say, "We haven't had a cooking fire in three years, so we're skipping this year's Fire Prevention Week theme." But that year, the theme was about cooking safety. The logic seems sound on the surface, but it misses the core definition of risk.

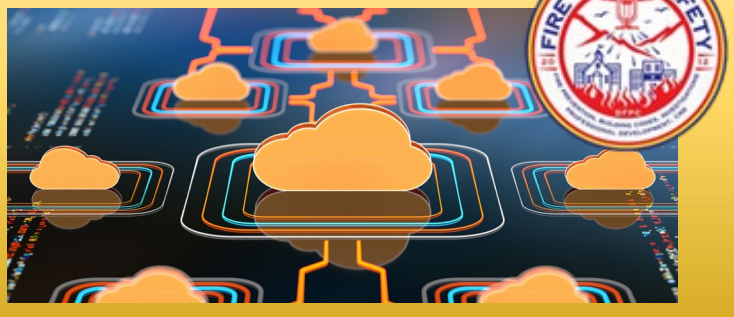
According to **NFPA 1300**, risk is "a measure of the probability and severity of adverse effects that result from exposure to a hazard." A hazard is "a condition, situation, or behavior that presents the potential for harm or damage to people, property, or the environment."

Just because an adverse event hasn't occurred recently doesn't mean the risk is low—or absent. Most communities share the same risk factors for cooking fires: people living in residences, people cooking, and heat-producing appliances that can ignite surrounding materials.

When you consider that almost everyone cooks, and that kitchen fires can result in fatalities, displacement, or structural loss, the risk is not only present—it's significant.

So, should a department use a national campaign theme—like lithium-ion battery safety or cooking fire prevention—even if they haven't seen a recent incident in their district?

Yes. The NFPA selects Fire Prevention Week themes based on national data and trends, choosing topics that are both timely and widely applicable. The risk may not have become reality in your district—yet—but that doesn't mean it won't. Using national resources helps build public awareness and prevention capacity before the event occurs.



CPVC Pipe and Chemical Incompatibilities: What You Should Know (1 of 3)

By Todd Jilbert, Fire Inspector

Chlorinated polyvinyl chloride (CPVC) piping and fittings are commonly used in automatic fire sprinkler systems due to their lower installation cost, corrosion resistance, and ease of assembly. Beyond these benefits, CPVC also provides a hydraulic advantage: its smooth internal surface offers a high friction loss coefficient (C-value), comparable to copper, brass, and stainless steel.

CPVC is a thermoplastic material produced by chlorinating polyvinyl chloride (PVC) resin. From a fire behavior standpoint, CPVC is difficult to ignite and tends to self-extinguish. However, when involved in a fire, the combustion of CPVC can release hazardous byproducts due to its chlorine content. Among these are chlorinated dioxins and polychlorinated dibenzofurans—both known to bioaccumulate and pose serious health risks.

One of the most critical considerations when specifying and installing CPVC piping is its incompatibility with certain chemicals frequently used in construction and building maintenance. These chemicals can degrade CPVC, leading to brittleness, cracking, and system failure. Any agent that disrupts the polymer structure has the potential to weaken CPVC. This includes not only chemical exposures but also ultraviolet (UV) radiation from direct sunlight.

The effects of chemical incompatibility are not always immediately apparent. In many cases, deterioration is gradual. However, certain substances—powerful solvents and plasticizers—can cause rapid degradation. The speed and severity of the reaction depend on the type of chemical, the degree of exposure, and the inherent stability of the CPVC formulation. It's important to note that not all CPVC products are manufactured identically; different brands use proprietary formulas.

CPVC Pipe and Chemical Incompatibilities: What You Should Know (2 of 3)

Common Construction Product Categories that may be Incompatible with CPVC:

- Firestop sealants and sprays
- Smoke and sound sealants
- Paints
- Plasticizers (found in sealants, tapes, insulated wires, and hoses)
- Cleaning agents
- Solvents such as ketones (e.g., acetone, butanone)
- Organic solvents (e.g., esters, ethers, furans, alcohols)
- Thread sealants
- Waterproofing products
- Spray foam insulation
- Oils and lubricants
- Lacquers, varnishes, and paint removers
- Aromatic hydrocarbons (e.g., benzene, cyclohexane, naphthalene)
- Insecticides and termiticides
- Mold abatement agents and fungicides
- Antifreeze solutions

This list is not exhaustive, and not all products within these categories are necessarily incompatible. However, many are. It is essential to consult the CPVC manufacturer's guidelines to confirm compatibility before installation. As a best practice, always assume a product is incompatible until verified otherwise.

Painting CPVC Sprinkler Piping

Many facility owners choose to paint their CPVC sprinkler components to reduce the visual impact of the bright orange color. However, certain paint formulations may be chemically incompatible with CPVC materials, potentially compromising the integrity of the fire protection system. Before applying any paint, it is essential to consult the manufacturer to verify whether painting is permitted and to obtain written documentation outlining their recommended procedures. It is also advisable to consult with your local and state Authority Having Jurisdiction (AHJ) to ensure that any modifications to the system remain code-compliant and do not affect future inspections or approvals.

CPVC Pipe and Chemical Incompatibilities: What You Should Know (3 of 3)

Firestop Sealant Incompatibility: A Real-World Example

A common compatibility issue encountered in the field involves firestop sealants used around CPVC sprinkler pipe penetrations through fire-resistance-rated wall assemblies. In one high-rise hotel and residential project, CPVC piping was installed tightly against the structural deck to maximize above ceiling space. This created a complex scenario at the head-of-wall joint system, where the pipe penetrated a dynamic, fire-resistance-rated assembly.

The sealant used for the joint system contained plasticizers to maintain its elasticity after curing—unfortunately, making it chemically incompatible with CPVC. The resolution involved an engineered firestop system from the manufacturer which included installing a protective sleeve around the CPVC pipe, applying a compatible through-penetration firestop sealant inside the sleeve, and then continuing the fire-resistance-rated joint system around it. While ultimately compliant, this solution was neither cost-effective nor schedule-friendly—emphasizing the importance of early coordination and careful product selection.

Installers must follow all manufacturer instructions for safe storage, handling, and installation of CPVC piping. This includes protecting the pipe from exposure to incompatible substances both during and after installation.

Manufacturer Resources

Two major CPVC manufacturers—Lubrizol and Spears—provide tools and resources for identifying chemical compatibility with their products:

- Lubrizol (BlazeMaster®, FlowGuard®, Corzan®, Temprite®)
  - Compatible Products: https://www.lubrizol.com/CPVC/FBC-System-Compatible-Program/System-Compatible-Product-Finder
  - Incompatible Products: https://www.lubrizol.com/CPVC/FBC-System-Compatible-Program/Incompatible-Products
- Spears (FlameGuard®, LabWaste®, EverTuff®)
  - Compatibility Tool: https://parts.spearsmfg.com/Cpl.aspx

Fire Investigations: Mobile Scene Trailer

By Brian Gies, Fire Investigations Unit Chief - West

Fire Investigations demand accuracy, coordination, communication and a few tools. DFPC Investigations Branch is proud to introduce our two Mobile Fire Investigations Trailers. One trailer is homed on the eastern slope and the other on the western slope. These trailers are equipped and ready to assist you and your agency.

The trailers are designed as a fully functional mobile command and/or support center. They bring forensic and fire investigative support capabilities directly to your scene. Your Fire Investigation Mobile Trailers serves as a self-contained operations unit.

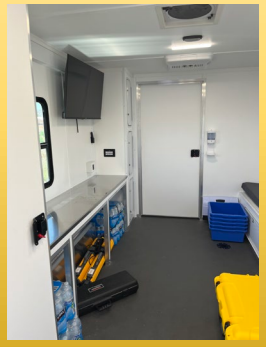
Some of the key capabilities include:

- Evidence Collection and Processing Station: Equipped with tools, packaging supplies and storage for handling fire debris, ignitable liquid samples and other evidentiary items.
- Climate-Controlled: The interior compartment is climate controlled to ensure the comfort and safety of investigative personnel. It may also be utilized as a command post, interview room, office/research space as well as Ignitable Liquid Detection Canine (ILDC) kennel.
- Onboard Technology: (4) trailer mounted high resolution cameras, Starlink, ASH hydrocarbon detector, 4-gas monitors, IGuide camera, portable lighting and UAV arial drone photography/cinematography are among the technologies available with these trailers.
- Communications: Integrated radios and satellite connectivity enable investigators to conduct research and communicate in remote areas of our State.

Common uses for these trailers include:

- Structure fires (residential, commercial, industrial)
- Motor vehicle fires
- Fatal fires
- Large scale incident support

DFPC Fire Investigations Trailers are more than just a trailer. They are a mobile command center, research station, and evidence processing center, just to name a few. To request one of these trailers and personnel to your scene, contact Colorado State Patrol (CSP) dispatch **(719) 544-2424**.



A Couple of Announcements

By Christopher Brunette, MS, FM, FLSS Chief

For all DFPC Certified Fire Inspectors, we are pleased to announce that DFPC is once again awarding 5 scholarships for the 2025 Fire Leadership Challenge held in Keystone, CO from October 21st – 24th. APPLY TODAY! Scholarship Application.

Applications will be accepted from August 1st thru August 15th, with scholarships being awarded on August 25th. Scholarships Include:

- Registration for the Fire Marshal Symposium
- 3-night stay at the conference (October 20th-24th)

These scholarships are designed to aid in the professional development of fire and life safety professionals doing work on DFPC's behalf. As such, applicants **must hold a current certification** with us as a Fire Inspector (I, II and/or III-Plan Reviewer). If you are unsure if your certification is current, you can check our list. Please contact us with any questions at flsadmin@state.co.us and we look forward to seeing you at the conference!

On another note, DFPC and the Colorado Resiliency Office (CRO) are launching a Colorado Wildfire Resiliency Code (CWRC) Implementation Peer Exchange. Governing bodies that are adopting or supporting the adoption of the recently released 2025 CWRC are invited to learn from each other and contribute to this peer-to-peer conversation. (**NOTE: The meeting is not open to the general public; the Peer Exchange is for implementing agencies and partners only.**)

Register here to attend the Peer Exchange and receive peer exchange-related email updates. As a reminder, all "governing bodies" must adopt a code by April 1, 2026 that meets or exceeds the state standards set forth in the 2025 CWRC. Implementation and enforcement of that adopted code is determined by the governing bodies, which may include different entities and agreements. This peer exchange provides a platform for local jurisdictions to discuss the benefits and drawbacks of various approaches.

Find out more about the CWRC at https://dfpc.colorado.gov/WRCB

Closing Remarks

The Fire & Life Safety Section (FLSS) is responsible for ensuring that all Public Schools, Charter Schools, Junior Colleges, State-Licensed Healthcare Facilities, Limited Gaming Facilities, and Waste Tire Facilities are constructed and/or maintained in accordance with the requirements of state statutes, regulations, adopted codes and, in the case of healthcare facilities, CMS (Centers for Medicare and Medicaid) mandated requirements.

The Section also works to confirm that all suppression systems in the state are installed by registered professionals, inspected by certified inspectors, and are installed in accordance with the requirements of state statutes, regulations, and adopted codes. Lastly, the Section regulates and licenses persons dealing with fireworks and ensures that the sales of permissible fireworks in Colorado are being conducted in licensed retail facilities that are properly constructed and maintained for this activity. To accomplish this mission, the members of the FLSS perform building, fire, and life safety code plan reviews and inspections, help to develop other building and fire code professionals throughout Colorado by providing inspection and plan review education and training, and regulate licenses and certifications.

In addition to the above-stated enforcement activities, the Section is responsible for conducting Fire Origin and Cause Investigations when requested by a local jurisdiction and for providing assistance to local jurisdictions to assess the risks in their communities and develop and implement Community Risk Reduction initiatives to aid in reducing identified risks.

PODCAST

TO LEARN MORE ABOUT THE FIRE & LIFE SAFETY SECTION PLEASE LISTEN TO THE FIRE TALKS PODCAST BY CLICKING THIS LINK