DRAFT 7/15/26

(Below is based on approved text from file F148-24 available through cdpAccess)

Delete 2024 IFC 915 in its entirety and replace with the following:

CARBON MONOXIDE SOURCE. A combustion process that has the potential to produce carbon monoxide as a product of combustion under normal or abnormal conditions. Carbon monoxide sources include, but are not limited to solid-, liquid-, or gas-fueled appliances, equipment, devices, or systems, such as fireplaces, furnaces, heaters, boilers, cooking equipment, and vehicles with internal combustion engines.

Carbon Monoxide Source, Direct. A permanently installed *carbon monoxide source* that is located in an interior space

Carbon Monoxide Source, Forced-indirect. A *carbon monoxide source* connected to an interior space by a forced air supply duct.

COMMUNICATING OPENINGS. A pathway by which air can freely flow from a room to another room. Communicating openings shall include, but shall not be limited to, doorways including *self-closing* doors, elevator shafts, open stairways, archways, transfer ducts and grilles, plenum spaces, interior hallways, and pass-through windows.

Justification: Communicating openings is defined. The definition is taken from the 2020 New York State Fire Code, Section 915.2. Changes from the NYSFC definition include revising “concealed spaces” to “plenum spaces” and adding “doorways including *self-closing* doors”. Plenum space refers to space above a ceiling used for plenum return (rather than ducted return). The term plenum space was used in lieu of concealed space because a plenum space is among the more likely instances of air moving through a concealed space between occupied areas, which may occur by the opening/closing of doors. The “including but not limited to” provision of the definition may allow the fire code official to take other interpretations of communicating openings where appropriate. Doorways including self-closing doors was added based upon the commentary to 2024 IFC 915.2.5 establishing that this is considered a communicating opening.

Cost Impact: A cost increase is not expected as this amendment attempts to establish how this phrase will be interpreted by the local jurisdictions, an effort to increase consistency between the jurisdictions and reviewers within a jurisdiction. For spaces adjacent to carbon monoxides sources in section 915.2.2, this definition affects how many additional spaces will receive carbon monoxide detection.

915.1 General. New and existing buildings shall be provided with carbon monoxide (CO) detection in accordance with Sections 915.2 through 915.6~~5~~.

Exception: In existing buildings undergoing an addition, alteration, relocation, or change of occupancy, CO detection & notification requirements may be permitted to be limited to the area of work and any adjacent spaces with communicating openings as required by 915.2.

Justification: The scope of Section 915 is revised to include Section 915.6 which is due to the addition of Section 915.5, monitoring. An exception is provided for existing buildings to limit the overall impact beyond the area of an addition, alteration, relocation, or change of occupancy provided that adjacent spaces with communicating openings are appropriately addressed as outlined in 915.2.

Cost Impact: A cost savings may occur in some existing buildings as a result of the exception.

915.2 Where required. Carbon monoxide detection shall be provided in interior spaces, other than *dwelling units* or *sleeping units*, that are exposed to a *carbon monoxide source* in accordance with Sections 915.2.1 through 915.2.3. Carbon monoxide detection for *dwelling units* or *sleeping units* that are exposed to *a carbon monoxide source* shall be in accordance with Section 915.2.4.

Justification: The scope of section 915.2 is revised to include a newly added section, 915.2.5, regarding shell building construction.

Cost Impact: This change is editorial, no cost impact. See section 915.2.5 for cost impact.

915.2.1 Interior spaces with direct carbon monoxide sources. In all occupancies, interior spaces with a *direct carbon monoxide source* shall be provided with carbon monoxide detection located in close proximity to the *direct carbon monoxide source* and in accordance with Section 915.3.

Exception: Where environmental conditions in an enclosed space are incompatible with carbon monoxide detection devices, carbon monoxide detection shall be provided in an *approved* adjacent location.

915.2.2 Interior spaces adjacent to a space containing a carbon monoxide source. In Groups A, B, E, I, M and R Occupancies, interior spaces that are separated from and adjacent to an enclosed parking garage or an interior space that contains a *direct carbon monoxide source* shall be provided with carbon monoxide detection if there are *communicating openings* ~~communicating openings~~ between the spaces. Detection devices shall be located in close proximity to *communicating openings* ~~communicating openings~~ on the side that is furthest from the *carbon monoxide source* and in accordance with Section 915.3.

Exceptions:

1. Where *communicating openings* ~~communicating openings~~ between the space containing a *direct carbon monoxide source* and the adjacent space are permanently sealed airtight, carbon monoxide detection is not required for the adjacent space.
2. Where the *fire code official* determines that the volume or configuration of the adjacent interior space is such that dilution or geometry would diminish the effectiveness of carbon monoxide detection devices located in such spaces, detection devices additional to those required by Section 915.2.1 shall be located on the side of *communicating openings* ~~communicating openings~~ that is closest to the *carbon monoxide source*.

Justification: The term “communicating openings” is revised to be italicized, referencing the definition added by amendment. This serves to clarify how this term will be practiced.

Cost Impact: This change is intended to result in a clearer code. It is expected that the undefined term “communicating openings” would be practiced similarly to the definition added by amendment, the difference being a clearer code for industry and a greater chance of a consistent application. A cost impact is not expected by establishing a definition of the term “communicating openings”.

915.2.3 Interior spaces with forced-indirect carbon monoxide sources. In all occupancies, interior spaces with a *forced-indirect carbon monoxide source* shall be provided with carbon monoxide detection in accordance with either of the following:

1. Detection in each space with a *forced-indirect carbon monoxide source*, located in accordance with Section 915.3.
2. Detection only in the first space served by the main duct leaving the *forced-indirect carbon monoxide source*, located in accordance with Section 915.3 ~~, with an audible and visual alarm signal provided at an *approved* location~~. Where a *forced-indirect carbon monoxide source* serves more than one tenant, detection shall be provided for each tenant in the space located closest to the *forced-indirect carbon monoxide source*.

Justification: Notification is addressed in 915.4.2.3 and notification requirements should remain consolidated for clarity. Additionally, the indicated notification may not be consistent with the notification option selected from 915.4.2.3. Due to the notification allowances of section 915.4, detection is required for each tenant space where large forced-indirect carbon monoxide sources serve multiple tenant spaces. If CO is being delivered via a large air handler, each tenant space served is provided with a form of notification rather than only one tenant space.

Cost Impact: A cost increase is excepted due to revising the code section from a single notification appliance at an approved location to additional detection devices being required, potentially, in multiple locations.

915.2.4 Dwelling units and sleeping units. Carbon monoxide detection for *dwelling units* and *sleeping units* shall comply with Sections 915.2.4.1 and 915.2.4.2.

915.2.4.1 Direct carbon monoxide sources. Where a *direct carbon monoxide source* is located in a bedroom or sleeping room, or a bathroom attached to either, carbon monoxide detection shall be installed in the bedroom or sleeping room.

Where carbon monoxide detection is not installed in bedrooms or sleeping rooms, carbon monoxide detection shall be installed outside of each separate sleeping area in close proximity to bedrooms or sleeping rooms for either of the following conditions:

1. The *dwelling unit or sleeping unit* has a *communicating opening* ~~communicating opening~~ to an attached, enclosed garage.
2. A *direct carbon monoxide source* is located in the *dwelling unit* or *sleeping unit* outside of bedrooms or sleeping rooms.

Justification: The term “communicating openings” is revised to be italicized, referencing the definition added by amendment. This serves to clarify how this term will be practiced.

Cost Impact: This change is intended to result in a clearer code. It is expected that the undefined term "communicating openings" would be practiced similarly to the definition added by amendment, the difference being a clearer code for industry and a greater chance of a consistent application. A cost impact is not expected by establishing a definition of the term "communicating openings".

915.2.4.2 Forced-indirect carbon monoxide sources. Bedrooms or sleeping rooms in *dwelling units* or *sleeping units* that are exposed to a *forced-indirect carbon monoxide source* shall be provided with carbon monoxide detection ~~in accordance with Section 915.2.4.1 or Section 915.2.3~~. Where carbon monoxide detection is installed in the first space served by the main duct leaving the forced-indirect carbon monoxide source, located in accordance with Section 915.3, an approved alarm signal shall be provided in each bedroom or sleeping room.

Justification: The section attempts to consider forced-indirect carbon monoxide sources serving areas where individuals sleep. Given the last phrase of the section stating "in accordance with Section 915.2.4.1 or Section 915.2.3", it's possible that an omission may be attempted from the referenced sections although detection and notification of the referenced section are of a different nature than this section. This amendment attempts to clarify the requirements of the referenced sections and avoid misinterpretations of the code. Examples:

- 915.2.4.1: If the only carbon monoxide source is a forced-indirect carbon monoxide source and there is no communicating opening to an attached, enclosed garage, then carbon monoxide detection is not required by section 915.2.4.1.
- 915.2.3: If carbon monoxide detection is located elsewhere in the dwelling/sleeping unit complying with item #2 of 915.2.3, then carbon monoxide detection is achieved for forced-indirect carbon monoxide sources, but notification of sleeping persons is not required to be achieved. Where a forced-indirect carbon monoxide source is producing unacceptable levels of carbon monoxide and supplying that carbon monoxide to sleeping persons, providing notification to sleeping persons is necessary.

The changes to the code section remove reference to 915.2.4.1 which removes the possibility for achieving an omission due to the absence of unrelated hazards, adds back in the alternate detection provision of 915.2.3 item 2 and requires notification in sleeping areas. The type of notification required is "an approved alarm signal". This intends to defer the type of notification to the type of detection/alarm system installed. For example, if Section 915.4 does not require visual notification for a certain dwelling or sleeping unit, then it's expected that the approved alarm signal would be an audible signal. If Section 915.4 requires visual notification in a certain dwelling or sleeping unit, then it's expected that the approved alarm signal will include both audible and visual notification.

Cost Impact: A cost increase will occur where an omission due to nonrelated hazards could have been used to eliminate carbon monoxide detection/notification.

915.3 Location of detection devices. Carbon monoxide detection devices shall be installed in accordance with manufacturer's instructions in a location that avoids dead air spaces, turbulent air spaces, fresh air returns, open windows, and obstructions that would inhibit accumulation of carbon monoxide at the detection location. Carbon monoxide detection in air ducts or plenums shall not be permitted as an alternative to required detection locations.

915.4 Permissible detection devices. Carbon monoxide detection shall be provided by a carbon monoxide detection system complying with Section 915.4.2 unless *carbon monoxide alarms* are permitted by Section 915.4.1.

915.4.1 Carbon monoxide alarms. In new buildings not provided with a *fire alarm system*, *automatic sprinkler system*, or dedicated function system and in existing buildings constructed prior to the adoption of the 2024 *International Fire Code* where a *fire alarm system* or monitored dedicated function system is not installed, c~~C~~*arbon monoxide alarms* complying with Sections 915.4.1.1 through 915.4.1.5~~3~~ shall be permitted in lieu of a carbon monoxide detection system in both of the following:

1. *Dwelling units* and *sleeping units*.
2. In occupancies other than Group E and locations ~~Locations~~ other than *dwelling units* or *sleeping units*~~, where approved~~, provided that the manufacturer's instructions do not prohibit installation in locations other than *dwelling units* or *sleeping units* where a minimum of one *carbon monoxide alarm* is installed in an *approved* normally occupied location ~~and that the alarm signal for any *carbon monoxide alarm* installed in a normally unoccupied location is annunciated by an audible and visual signal in an *approved* location~~.

Justification: Section 915.4.2.1 does not allow carbon monoxide alarms in buildings with a fire alarm system installed, calling for carbon monoxide detectors to be connected to the fire alarm system. Section 915.4.2.1 also calls for carbon monoxide detection systems to be installed in buildings without a fire alarm system. Unamended, this section allows

carbon monoxide alarms “where approved”. The amended language clearly defines where carbon monoxide alarms are approved.

Carbon monoxide alarms are only permitted in new buildings with no fire alarm or sprinkler system installed and existing buildings with no fire alarm system installed. Additionally, carbon monoxide alarms are not approved for group E occupancies, new and existing, whether or not there is a fire alarm system or sprinkler system.

915.4.1: Requiring carbon monoxide detectors in new and existing buildings with a fire alarm system aligns with Section 915.4.2.1. In new buildings with a sprinkler system, carbon monoxide detection may be connected to the sprinkler monitoring panel or a dedicated function carbon monoxide detection system. This amendment requires most new buildings to be provided with carbon monoxide detection systems, the purpose is to report a carbon monoxide alarm to the supervising station and elicit a response to the hazard. A corresponding amendment to Section 903.4.2 is proposed to add the carbon monoxide alarm signal to the sprinkler monitoring system where carbon monoxide detectors are connected to the sprinkler monitoring panel.

Item 2 does not approve the use of carbon monoxide alarms in any educational occupancy.

Item 2 also requires that at least one carbon monoxide alarm will be installed in an approved normally occupied area. This requirement is inspired by the sprinkler monitoring amendment, Section 903.4.2, where the hope is an individual will warn others of a carbon monoxide hazard upon alarm activation. Where section 915.2 requires a carbon monoxide alarm to be installed in an approved normally occupied area, an additional alarm would not be needed to meet the requirements of this section. The visual signal component of the unamended language is removed since carbon monoxide alarms are audible-only devices and adding a visual notification component to this type of installation is not warranted given the complexity and cost.

For dwelling units constructed in accordance with the IRC, the requirements of Section 915 do not apply due to the language of Section 102.5. Carbon monoxide detection is codified in the IRC for IRC buildings.

Cost Impact: For the portion of the amendment that removes “where approved” and defines the approved instances where carbon monoxide alarms are permitted, no cost increase occurs as this codifies the position of the Southern Nevada Fire Consensus Committee rather than enforcing the same requirements as an interpretation of “where approved”.

A cost increase will occur for group E occupancies where no fire alarm or sprinkler monitoring system exists, to add a dedicated function panel and a monitoring account (See 915.5). Group E occupancies without a fire alarm system rarely occur.

Adding carbon monoxide detectors to a sprinkler monitoring panel is a cost increase since a majority of sprinkler monitoring installations consist of a radio transmitter. The commonly used radio transmitters do not have the capacity to add carbon monoxide detectors so it’s expected that a fire alarm panel will be installed to support carbon monoxide detectors. Cost increases will occur for the added fire alarm panel to sprinkler monitoring system, and added wiring and devices for notification in accordance with Section 915.4.2 since detection and notification are separate for carbon monoxide detection systems (unlike carbon monoxide alarms where the alarm device contains both the detection and notification functions).

A cost increase is expected to add an additional carbon monoxide alarm where no carbon monoxide alarms already exist in the approved normally occupied location.

Compared to the previous code cycle, disallowing carbon monoxide alarms in dwelling and sleeping units in buildings with a fire alarm system will result in a cost increase. It’s viewed that the detection component is estimated to be cost neutral in many cases, although some highly proprietary fire alarm systems carry high costs for system alterations and expansions. A cost increase will occur to provide the notification component of carbon monoxide detection in most systems. The notification component consists of adding new notification devices being either audio/visual appliances or sounder bases including circuiting for the new notification appliances which may require running new circuiting from the scope of work through occupied areas to panel locations. In some instances, a new power supply panel to provide power for new carbon monoxide notification appliance(s) may be needed.

915.4.1.1 Power source. In buildings with a wired power source, *carbon monoxide alarms* shall receive their primary power from a permanent connection to building wiring, with no disconnecting means other than for overcurrent protection, and shall be provided with a battery backup. In buildings without a wired power source, *carbon monoxide alarms* shall be battery powered.

Exception: Where *carbon monoxide alarms* are permitted by Section 915.4.1 and the code that was in effect at the time of construction did not require carbon monoxide detection, 10-year sealed battery-operated *carbon monoxide alarms* are permitted. ~~For existing buildings not previously required to have carbon monoxide alarms permanently connected to a wired power source, existing battery-powered and plug-in with battery backup carbon monoxide alarms shall be permitted to remain in service. When replaced, replacement with battery-powered and plug-in with battery backup carbon monoxide alarms shall be permitted.~~

Justification: The amendment allows the use of 10-year sealed carbon monoxide alarms for existing buildings where the initial construction code of record did not require carbon monoxide detection. This provision is based on 2024 IFC Section 1103.9, exception 1, with the limitation that 10-year sealed battery units be utilized. The interconnect provisions still apply to the battery-operated alarm units. At the time of this writing, only a few 10-year sealed battery multi-station carbon monoxide alarm devices, which interconnect wirelessly, are available for purchase. The use of this exception is not permitted where carbon monoxide detectors are required by this code.

Cost Impact: Where the exception applies and battery devices comply with the appropriate interconnect provisions, a cost savings may occur avoiding the installation of permanent conductors to the carbon monoxide alarm units.

915.4.1.2 Listings. *Carbon monoxide alarms* shall be *listed* in accordance with UL 2034. Combination carbon monoxide/smoke alarms shall also be *listed* in accordance with UL 217.

915.4.1.3 Interconnection. Where more than one *carbon monoxide alarm* is installed, actuation of any alarm shall cause all of the alarms to signal an alarm condition in the following areas:~~.~~

1. Throughout a *dwelling unit*.
2. Throughout a *sleeping unit*.
3. Throughout a tenant space or throughout all areas served by a *forced-indirect carbon monoxide source*, whichever is greater.

Justification: Interconnection is more clearly specified. Unamended language may be interpreted to require all carbon monoxide alarms in a building to be interconnected, which brings into question interconnection between dwelling units and sleeping units in condominiums, hotels, motels, etc. Interconnection between dwelling units and sleeping units is not practiced with smoke alarms and widespread practice of carbon monoxide alarm installation does not likely include interconnection beyond the dwelling or sleeping unit.

Where carbon monoxide alarms are approved in buildings without dwelling units or sleeping units, interconnection throughout a tenant space is required unless a large forced-indirect carbon monoxide source serves multiple tenant spaces, then the multiple tenant spaces require interconnection. Where large forced-indirect carbon monoxide sources serve multiple tenant spaces, a single carbon monoxide alarm in a certain tenant space may be provided to detect a carbon monoxide hazard that exposes multiple tenant spaces. This amendment works with the amendment to Section 915.4.1 item #2 to provide notification to all tenant spaces served by a large forced-indirect carbon monoxide source.

Cost Impact: Items 1 & 2 are cost neutral as carbon monoxide alarm interconnection is an existing requirement. Item 3 is a cost increase due to the potential of interconnection between tenant spaces.

915.4.1.4 Construction Documents. Floor plans depicting the location of all required carbon monoxide alarms shall be submitted for review and approval in a manner acceptable to the building official or fire code official.

Justification: Where carbon monoxide alarms are allowed, this section requires a plans submittal. This ensures that locations will be reviewed where carbon monoxide detection is required and provided by carbon monoxide alarms. The manner in which plans may be submitted for carbon monoxide alarms may vary between the jurisdictions and this section gives the officials operational flexibility.

Cost Impact: A cost increase may occur for preparation of plans.

915.4.1.5 Installation. Carbon monoxide alarms shall be installed in accordance with NFPA 72.

Justification: Similar to smoke alarms from 2024 IFC 907.2.11, a reference to NFPA 72 is made to cover technical installation requirements not typically covered by IFC provisions. Where a provision is covered by both the IFC and NFPA 72, 2024 IFC 102.7.1 requires the provisions of the IFC to govern.

Cost Impact: A cost impact may occur where a provision, or future provision, of NFPA 72 may not be enforceable without this amendment.

915.4.2 Carbon monoxide detection systems. Carbon monoxide detection systems shall be installed in accordance with NFPA 72 and all of the following:

1. Detectors shall be powered and supervised by the dedicated function system.
2. Control units and control unit locations shall comply with Sections 907.6.4.1 and 907.6.8.
3. A CO detection system may be combined with a dedicated function sprinkler monitoring system. Unless otherwise approved, CO detection systems shall not be combined with other dedicated function systems.

Justification: This section provides clarity on requirements for detection systems. Panel location and quantity limitations are consistent with other amendments for Fire Alarm Control Panel. The intent is to maintain a single panel in a safe, accessible, and properly conditioned space through these requirements and referenced amended sections.

Cost Impact: Cost savings may occur when a CO detection system can be combined with another dedicated function system.

915.4.2.1 Fire alarm system integration. Where a building *fire alarm system* or combination *fire alarm system*, as defined in NFPA 72, is installed, carbon monoxide detection shall be provided by connecting *carbon monoxide detectors* to the *fire alarm system*. Where a building *fire alarm system* or a combination *fire alarm system* is not installed, carbon monoxide detection shall be provided by connecting *carbon monoxide detectors* to a carbon monoxide detection system complying with NFPA 72.

915.4.2.2 Listings. *Carbon monoxide detectors* shall be *listed* in accordance with UL 2075. Combination carbon monoxide/smoke detectors shall be *listed* in accordance with UL 268 and UL 2075.

915.4.2.3 Alarm notification. For all ~~other than Group E~~ Occupancies, activation of a carbon monoxide detector shall initiate alarm notification in accordance with any of the following:

1. An audible and visible alarm notification throughout the building in accordance with Section 907.5 and at the control unit.
2. Where specified in an *approved* fire safety plan, an audible and visible alarm in accordance with Section 907.5 in the signaling zone where the carbon monoxide has been detected and other signaling zones specified in the fire safety plan, and at the control unit.
3. Where a sounder base is provided for each detector, an audible alarm at the activated *carbon monoxide detector,* all sounder bases throughout a tenant space, all sounder bases provided for detectors in adjacent spaces with communicating openings, and an audible and visible alarm at the control unit. When required by the fire code official, the supervising station shall also retransmit carbon monoxide alarm signals to the Fire Department.

~~For Group E Occupancies having an occupant load of 30 or less, alarm notification shall be provided in an on-site location staffed by school personnel or in accordance with the notification requirements for other occupancies. For Group E occupancies having an occupant load of more than 30, an audible and visible alarm shall be provided in an on-site location staffed by school personnel.~~

Exception: In accordance with Section 907.2.6, exception 2, where private mode signaling installed in accordance with NFPA 72 is *approved* by the *fire code official* and staff evacuation responsibilities are included in the fire safety and evacuation plan required by Section 404, audible and visual alarm notification shall be installed at a nurses' control stations or other continuously attended staff locations.

Justification: This section is reorganized for clarity to separately describe requirements for dwelling/sleeping units, Group E occupancies, and the remainder of uses and occupancies. The same private mode exception for Group I occupancies found in Section 907.2.6 is provided here. It's expected that staff who are trained to respond to fire and assist with evacuation may also be capable of responding and assisting evacuation for carbon monoxide hazards.

Cost Impact: A cost savings is expected where the private mode signaling provision is approved. Otherwise, the remainder of the changes to this section are organizational.

915.4.2.3.1 Within *dwelling units* and *sleeping units*, activation of a *carbon monoxide detector* shall initiate alarm notification in accordance with the following:

1. Audible notification in all rooms provided with carbon monoxide detection.
2. In bedrooms or sleeping rooms, the audible alarm signal activated by a *carbon monoxide detector* in the *dwelling unit* or *sleeping unit* shall be a 520-Hz signal complying with NFPA 72.

3. In each room provided with carbon monoxide detection and bedrooms or sleeping rooms of Group I-1 and R-1 occupancies required to be provided with visible notification in accordance with Section 907.5.2.3.2, the visible alarms shall also be activated by a *carbon monoxide detector* in the *dwelling unit* or *sleeping unit*.
4. In Group R-2 occupancies, each story that contains *dwelling units* and *sleeping units* shall be provided with the capability to support future visible alarm notification appliances in accordance with Chapter 11 of ICC A117.1. Such capability shall accommodate wired or wireless equipment.

Justification: Alarm notification in dwelling units and sleeping units is modeled to match the requirements of smoke alarms including restricting notification of in-room detection to the **unit**. Item 1 is taken from the smoke alarm interconnection requirement of Section 907.2.11.5. Item 2 is taken from Section 907.5.2.1.3.2. Item 3 is taken from Section 907.5.2.3.2. Item 4 is taken from Section 907.5.2.3.3.

Cost Impact: A cost increase is expected to provide audible and visible notification in dwelling units and sleeping units.

915.5 Monitoring. Where a dedicated function carbon monoxide detection system is installed, the following signals shall be transmitted to an *approved* supervising station:

1. Carbon Monoxide Alarm
2. System Trouble

Where *carbon monoxide detectors* are connected to a *fire alarm system*, signals shall be transmitted in accordance with Section 907.6.6.

Where *carbon monoxide detectors* are connected to a sprinkler monitoring system in accordance with Section 903.4.2, signals shall be transmitted in accordance with Section 903.4.2.

915.5.1 Transmission of signals. Transmission of signals to a supervising station shall be in accordance with NFPA 72.

915.5.1.1 Signals from carbon monoxide detectors and carbon monoxide detection systems system shall be indicated and transmitted as a carbon monoxide alarm signal. Carbon monoxide signals shall not be transmitted as supervisory signals.

915.5.1.2 Where required by 915.4.2.3 option 3, the supervising station shall also retransmit carbon monoxide alarm signals to the Fire Department.

915.5.2 MIY monitoring. Direct transmission of signals associated with monitor it yourself (MIY) transmitters to a public safety answering point (PSAP) shall not be permitted unless *approved* by the *fire code official*.

915.5.3 Termination of monitoring service. Prior to termination of monitoring service, notice shall be provided in accordance with Section 110.3.

Justification: Where carbon monoxide detectors are in use, whether connected to a fire alarm system, sprinkler monitoring system, or dedicated function system, the carbon monoxide alarm is required to be transmitted to a supervising station. This amendment requires that the signal always be treated as a carbon monoxide alarm signal, more specifically, this signal shall not be treated as a supervisory signal. This amendment forbids the use of 2022 NFPA 72 23.8.4.9.1. Further, 2022 NFPA 72 26.2.4 specifies carbon monoxide alarm signal disposition requirements. This amendment is necessary to clarify the purpose of the carbon monoxide alarm signal, the signal is required to be given a higher priority than supervisory, and this signal is not to be confused with a generic supervisory condition. Unlike fire hazards where products of combustion are often discernable to the occupants, carbon monoxide hazards are not typically discernible to the occupants. This increases the risk to injury and for uses and occupancies not permitted to use carbon monoxide alarms, a response to a carbon monoxide hazard is necessary.

Cost Impact: Where a building is required to install a dedicated function carbon monoxide system, a cost increase is expected to install a monitoring system and to cover the recurring cost of monitoring service. Additionally, a cost impact may occur where the supervising station may otherwise have used supervisory signal deposition.

915.~~5~~6 Maintenance. *Carbon monoxide alarms* and carbon monoxide detection systems shall be maintained in accordance with NFPA 72 and the manufacturer's instructions. *Carbon monoxide alarms* and *carbon monoxide detectors* that become inoperable or begin producing end-of-life signals shall be replaced.

Justification: Renumbering the maintenance section due to the addition of the monitoring section.

Cost Impact: No cost impact.

105.6.31 Carbon monoxide detection systems. A construction permit is required for the installation of or modification to a carbon monoxide detection system. See Section 915.

Justification: Where a carbon monoxide detection system is installed, a construction permit is required to be obtained. Section 915 lays out requirements for carbon monoxide detection, but chapter one does not require a permit to perform the work, this section fills that gap. This is necessary given the significant expansion of scope of Section 915 compared to previous code adoptions.

Cost Impact: A cost increase will occur to prepare plans and cover permit/inspection costs.

903.4.2 Monitoring. Systems providing electronic supervision required by Section 903.4.1 shall be monitored by an *approved* supervising station in accordance with NFPA 72 and as *approved* by the *fire code official*.

Exception: Monitoring by a supervising station is not permitted unless specifically *approved* by the *fire code official* for:

1. *Automatic sprinkler systems* protecting one- and two-family dwellings.
2. Monitoring systems utilizing point-by-point monitoring.

In occupancies provided with a supervised sprinkler system, the following four ~~three~~ distinctly different signals shall be transmitted to an approved supervising station:

1. Waterflow Alarm
2. Supervisory
3. System Trouble
4. Carbon monoxide alarm, when applicable

For new and existing facilities, the supervising station shall only retransmit Waterflow Alarm signals to the fire department.

Exception: The supervising station shall also retransmit carbon monoxide signals for government buildings, (all facilities owned, leased and/or operated by any City, County, State, or Federal government agency) schools (including daycares, preschools, public and private schools etc.) and hospitals (including nursing homes, convalescent homes, adult care facilities, group homes, extended care facilities, etc.).

Justification: Due to changes to Section 915.5, a new sprinkler monitoring signal is added to accommodate carbon monoxide detection where connected to the sprinkler monitoring system. The exception is a companion amendment to the one found in 907.6.6.

Cost Impact: For most installations, a cost impact is not expected due to monitoring panels typically having a minimum of four zones or where fire pumps are provided with a four zone panel, a zone expansion board is likely already provided due to the pump signals. Making the carbon monoxide alarm the seventh or eighth signal depending on pump type.