




BUILDINGS
2024-001
BULLETIN
TECHNICAL

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PURPOSE: While superseding BB 2015-025, this Bulletin clarifies the types of work involving an existing fire alarm system, designed, and approved under the 2014 Building Code or prior codes which are subject to the 2022 Construction Codes.

SUBJECT(S): Fire alarm, ordinary repair; Fire alarm, existing buildings; Fire alarm, alterations

SUPERSEDED DOCUMENT: Buildings Bulletin 2015-025

RELATED CODE SECTIONS: AC 28-101.4.3, BC 901.9, BC 907, BC 915, and the current New York City Electrical Code

I. BACKGROUND

This Bulletin supersedes BB 2015-025 with regards to clarifying the types of work involving an existing fire alarm system, designed, and approved under the 2014 Building Code or Prior Codes, which are now subject to the 2022 Construction Codes.

Work on existing approved fire alarm systems installed in existing buildings pursuant to the 2014, 2008 Building Code or Prior Codes shall comply with this Bulletin.

II. WORK CONSTITUTING A REPAIR

As it relates to existing approved fire alarm systems, repair work pursuant to section BC 901.9.1.1 of the 2022 New York City Building Code (2022 BC) shall **not** require new plans to be filed and approved by FDNY. Repair work shall be performed in accordance with the New York City Electrical Code by a licensed electrician and shall not cause such existing fire alarm system's functionality to change. Repair, or the in-kind replacement, of devices and appliances, for the purpose of maintaining such devices and appliances in working order, will be considered as repair work, as allowed by BC 901.9.1.1, if the proposed installation is not hazardous and is done in the same manner and arrangement as the existing system. For example, repair work could include, but is not limited to:

- A. the repair or in-kind replacement of initiating devices (smoke detector, water flow, manual pull station, etc.)
- B. the repair or in-kind replacement of notification appliances (audible and visible devices)
- C. The repair of control panels or distributed control units of an existing approved fire alarm system, including but not limited to the Remote Control Unit (RCU), Terminal Transmission Box (TTB), and Data Gathering Panel (DGP), for the purpose of maintaining distributed control units and control panels in working order.

III. ALTERATIONS THAT DO NOT CONSTITUTE A REPAIR

Limited scope alterations or upgrades to existing approved and operational fire alarm systems, installed previously under the 2014 BC or Prior Codes may not be able to meet all the 2022 BC requirements without replacement of the entire fire alarm system. Accordingly, 2022 BC 901.9.1 allows limited scope alterations to be performed without mandating full fire alarm system replacement.

Auxiliary Radio Communication System (ARCS) is required in the following cases, even for alterations that do not constitute a repair:

- A. For scope of alterations where the value of such alteration triggers the requirements of BC 901.9.4.1, ARCs would be required and where not present shall be newly installed
- B. when the scope of the alteration creates a *High-Rise Building*, as defined in the 2022 BC 202, or a large area building pursuant to sections BC 907.2.2.2, BC 907.2.7.1, or BC 907.2.10.1, ARCs would be required and where not present shall be newly installed
- C. when the scope of the alteration results in a change of occupancy or use in a high-rise or large area building pursuant to section BC 901.9.2, item No. 1, ARCs would be required and where not present shall be newly installed.

ARCs may not be required where it is determined by FDNY, in accordance with 2022 NYC BC 916.3. The following alteration work shall be allowed without full system replacement, provided this work complies with the requirements described herein. New plans shall be filed with FDNY for their approval of the work described below:

- A. **Relocation or replacement of the Fire Command Center (FCC), Fire Command Station (FCS), Fire Alarm Control Panel (FACP), and other control panels or distributed control units (RCU, TTB, DGP).** Where the scope of work constitutes the relocation or replacement of an FCC, FCS, FACP, or other control panels or distributed control units, the building's entire fire alarm system is not required to be replaced provided that the following conditions are met:
 - 1. The proposed sequence of operation must match that of the existing approved fire alarm system that is in place prior to such relocation or replacement work. Modifications to the sequence of operation are allowed when programmed in accordance with NFPA 72, as amended by Appendix Q of the 2022 BC, as if it was for a system in a new construction of similar building characteristics.
 - 2. Where a FCC, FCS, FACP, or control panel or distributed control unit is relocated or replaced, existing non-power-limited and power-limited fire alarm system wiring can be re-used when existing power capacity is deemed to be adequate. However, splicing of existing non-power-limited fire alarm system wiring is prohibited.
 - 3. Where a FCC, FCS, FACP, or control panel or distributed control unit is relocated or replaced and existing power capacity is not adequate, a new non-power-limited fire alarm wiring connection that is compliant with Article 760 of the New York City Electric Code shall be provided.
 - 4. Where a FCC, FCS, FACP, or other control panel or distributed control unit is relocated, maintain proximity/distance requirements for related systems and controls, including elevator control panel and mechanical fan control panels as applicable.
- B. **Floor Alterations.** Where the scope of work constitutes an alteration to all or part of a floor, the building's entire fire alarm system is not required to be replaced and the following clarifications and conditions apply:

1. where the floor alteration encompasses the entire floor, all existing core related (reference FDNY Bulletin 01-09/2020) fire alarm devices and all newly installed devices required by 2022 BC 907 on such floor, must comply with the current New York City Construction Codes and New York City Electric Code
2. where the floor alteration encompasses only part of a floor, compliance with the current New York City Construction Codes and New York City Electric Code and New York City Electric Code will be limited to newly installed fire alarm equipment within the area of such partial floor alteration. For that portion of the floor not being altered, the existing functional devices and wiring may remain.

Where any floor alteration requires the installation of initiating devices or notification appliances in accordance with the current New York City Construction Codes and New York City Electric Code, and such devices cannot be supported by the existing fire alarm system's control panel, new control panels or distributed control units (RCU, TTB, DGP, etc.) are allowed to be installed provided they are installed in a similar manner and have wiring comparable to the existing approved installation.

C. Upgrades to system technology. Where the scope of work includes a system technology upgrade of the control panels or distributed control units (RCU, TTB, DGP, etc.) and/or the FCC, FCS or FACP, the building's entire fire alarm system will not be required to be replaced and the following interpretation and conditions apply:

1. new or upgraded control panels or distributed control units should be located in the same room or location as the existing equipment
2. fire alarm system wiring for the riser portion of the upgrade shall comply with the survivability standards outlined in NFPA 72, as amended by 2022 BC Appendix Q
3. where the control panels or distributed control units have adequate battery power capacity to support all system functions, upon completion of such upgrade installation, done in accordance with the requirements of NFPA 72 as amended by 2022 BC Appendix Q, a new electrical power supply is not required
4. if the existing electrical power supply is not adequate to support the upgraded or replacement control panels and/or distributed control units, a new electrical power supply must be provided for all affected equipment in accordance with the current NYC Electrical Code and, where applicable, in accordance with the survivability requirements of NFPA 72 as amended by the 2022 BC Appendix Q
5. Initiating Devices:
 - a. initiating devices required by 2022 BC 907.2 items (1) and (2), for selective coverage smoke detection, must be installed throughout the building at Code-required locations, if not already present
 - b. existing initiating devices, if functional, may remain
 - c. replace of all initiating devices as part of a system technology upgrade requires that the initiating device installation complies with the 2022 BC.
6. Notification Appliance Devices:
 - a. all notification appliance circuits shall be supervised upon completion of the system technology upgrade
 - b. replace of all notification appliances as part of a system technology upgrade requires that the notification appliance installation complies with the 2022 BC.

7. The sequence of operation of the fire alarm system is programmed in accordance with the 2022 BC, as if it was for a new system in a new construction of similar building characteristics.

EXCEPTION: For those buildings requiring partial evacuation that do not have one-way voice communication and do not fall under item eight of this section.

8. A new one-way voice communication system shall be installed, in accordance with 2022 BC requirements, in any existing building having a height greater than 125 feet, as measured from the lowest level of fire department access to the highest occupied floor if a one-way voice communication system does not currently exist.

D. Building enlargements not changing use or occupancy. While fire alarm systems must be extended into the enlarged portions of buildings, the building's entire fire alarm system will not be required to be replaced provided that the following six (6) conditions are met:

1. the extended fire alarm system must have the same sequence of operation as the existing building's current previously approved fire alarm system
2. all portions of the existing fire alarm system that require modification to support the enlargement must comply with the 2022 New York City Construction Codes.
3. all enlarged building portions must have the same occupancy class as the existing building
4. the enlarged building portions must not cause the building to be re-classified as a "large-area building," pursuant to sections BC section 907.2.2.2, 907.2.7.1, or 907.2.10.1*
5. the existing building cannot be a high-rise pursuant to section BC 202, nor can any proposed enlargement cause the building to be re-classified as a high-rise building
6. within the enlarged building portions, all fire alarm system devices, appliances, and wiring must comply with all requirements in the 2022 Construction Codes.

** NOTE: If the enlargement causes the building to be classified as a "large-area" building pursuant to section BC 907.2.2.2, section BC 907.2.7.1, or section BC 907.2.10.1, or classified as a high-rise building pursuant to section BC 202, the entire building fire alarm system shall be modified or replaced to comply with requirements of the 2022 New York City Construction Codes.*

E. Change of occupancy class. Where the scope of work in any space constitutes a change in the occupancy classification of such space, the buildings' entire fire alarm system will not be required to be replaced provided that the following condition is met:

1. A fire alarm system, in accordance with item 2 of section BC 901.9.2, shall serve such space having the change in occupancy class.* The interface with the existing building-wide fire alarm system, assuming such existing system is present, shall be subject to review by the Department.

** NOTE: Pursuant to Item 1 of section BC 901.9.2, if a change is made to the main use or dominant occupancy of the building, provide a new full building fire alarm system replacement in accordance with Section IV of this Bulletin.*

IV. FIRE ALARM SYSTEM REPLACEMENT - WORK PERMIT REQUIRED

If an existing fire alarm system, previously approved under the 2014 BC, 2008 BC or Prior Codes, does not function properly and cannot be repaired in accordance with conditions listed in Sections II or III of this Bulletin, or if listed replacement parts are unavailable for any other reason, the building's entire fire alarm system must be replaced with a new fire alarm system compliant with the current New York City Construction Codes and New York City Electric Code, and new applications for permit shall be filed accordingly.