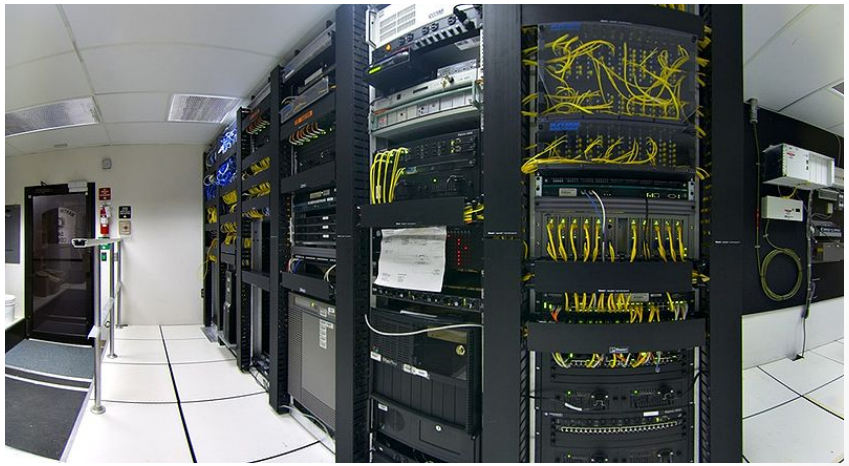
NYC SUB-SYSTEMS – INSTALLATION & SERVICE REQUIREMENTS OF THE FDNY



Presented by:

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METRO PROTECTION SYSTEMS

Agenda

- Introduction & Learning Objectives
- History of Sub System Code Requirements - 1990
- Development of FDNY Bulletin 08-01-11 & 08-01-12
- FDNY Installation Requirements for Preaction Systems & Clean Agent Systems
- FDNY Service/Inspection Requirements for Sub-Systems
- Fire Protection Design for Hot Aisle / Cold Aisle
- NFPA 2001 Revision – Changes to 2012 Reference Standard
- Clean Agent Safety Margin Modification to 2012 Standard
- New Technologies – Aerosol
- Review Learning Objectives – Questions & Answers

METRO PROTECTION SYSTEMS

History of Sub System Code Requirements

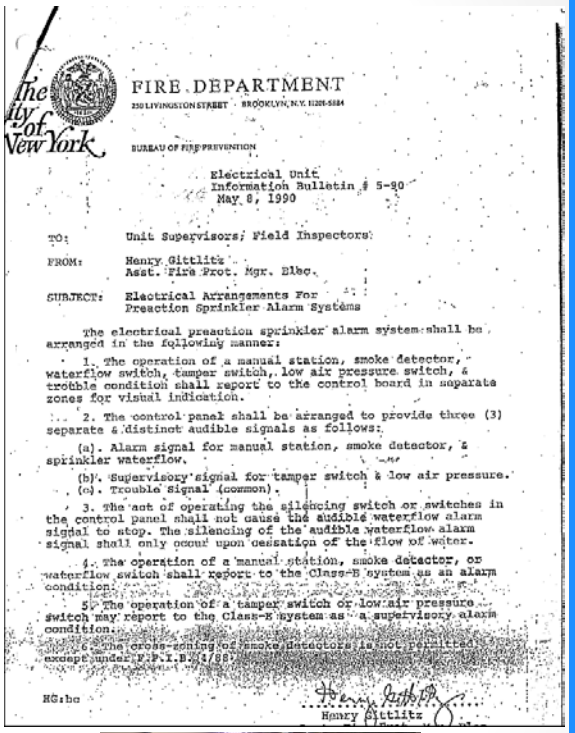
- Information Bulletin # 5-90 – Issued by Assist. Fire Protection Mgr. – Henry Gittlitz – May 8, 1990
  - Revised by Electrical Bulletin 1-92
- Clean Agent Requirements - RCNY 15-08 – 3-31-98
  - Halon 1301 Requirements – RCNY 15-03

- Code Requirements for Design and Installation of Sub-Systems up until 2008 Edition of Fire Code was Issued for NYC

METRO PROTECTION SYSTEMS

Preaction Systems – Bulletin 5-90

1. The operation of a manual pull station, smoke detector, waterflow switch, tamper switch, low air switch, & trouble condition shall report to the control board in separate zones for visual indication.
2. The control panel shall be arranged to provide (3) separate & distinct audible signals as follows:
   a) Alarm Signal for manual station, smoke detector, & sprinkler waterflow
   b) Supervisory Signal for tamper switch & low air pressure
   c) Trouble signal (common)
3. The act of operating the silencing switch or switches in the control panel shall not cause the audible waterflow alarm signal to stop. The silencing of the audible waterflow alarm signal shall only occur upon cessation of the flow of water.
4. The operation of a manual station, smoke detector, or waterflow switch shall report to the Class E system as an alarm condition.
5. The operation of a tamper switch or low air pressure switch <u>may</u> report to the Class E system as a Supervisory alarm condition.
6. The cross zoning of smoke detectors is not permitted except under F.P.I.B 4/88



The City of New York
FIRE DEPARTMENT
250 LIVINGSTON STREET · BROOKLYN, N.Y. 11201-5884
BUREAU OF FIRE PREVENTION

Electrical Unit
Information Bulletin # 5-90
May 8, 1990

TO: Unit Supervisors; Field Inspectors

FROM: Henry Gittlitz
Asst. Fire Prot. Mgr. Elec.

SUBJECT: Electrical Arrangements For Preaction Sprinkler Alarm Systems

The electrical preaction sprinkler alarm system shall be arranged in the following manner:

1. The operation of a manual station, smoke detector, waterflow switch, tamper switch, low air pressure switch, & trouble condition shall report to the control board in separate zones for visual indication.

2. The control panel shall be arranged to provide three (3) separate & distinct audible signals as follows:

(a). Alarm signal for manual station, smoke detector, & sprinkler waterflow.

(b). Supervisory signal for tamper switch & low air pressure.

(c). Trouble Signal (common).

3. The act of operating the silencing switch or switches in the control panel shall not cause the audible waterflow alarm signal to stop. The silencing of the audible waterflow alarm signal shall only occur upon cessation of the flow of water.

4. The operation of a manual station, smoke detector, or waterflow switch shall report to the Class-E system as an alarm condition.

5. The operation of a tamper switch or low air pressure switch may report to the Class-E system as a supervisory alarm condition.

6. The cross-zoning of smoke detectors is not permitted except under F.P.I.B. 4/88

HG:bc

Henry Gittlitz

METRO PROTECTION SYSTEMS

Preaction Systems – Bulletin 5-90 Clarification Bulletins

- November 1990 Bulletin clarification
  - Time delays and abort switches are prohibited from use in sprinkler systems
  - Cross zoning of detectors is prohibited in preaction systems except where a halon system is also protecting the area identical to that protected by sprinklers.
  - Activation of a waterflow, smoke detector, heat detector, & manual station shall cause fan shutdown of those building systems serving the effected area; the shutdown of free standing self contained units serving only the effected area is optional.
  - The shutting down of computers & computer power is optional.
  - In those premises containing a Class E, J, or C Fire Alarm System, the operation of the preaction system waterflow, smoke detection, heat detection, & manual station shall report as an alarm condition to the building wide fire alarm system & may report as a single point. The reporting of preaction low air pressure alarm, tamper alarm, & trouble to the main building system is optional.
  - The applicability of a particular control panel to the preceding criteria is a matter of design which should be evaluated by a field engineer.
- January 1992 Bulletin clarification
  - 10” Bell for Waterflow, 8” Bell for Supervisory, and 6” Bell for Trouble

METRO PROTECTION SYSTEMS

Clean Agent Systems – RCNY 15-08

- Recognized as a Voluntary Type System
- Limited to Automatic Total Flooding Systems
- If authorized to be installed in lieu of sprinklers or other extinguishing system required by law, a connected reserve of charged cylinders equal to the primary supply shall be provided.
- Abort/Delay systems are permitted, limited to systems actuated by smoke detectors. Activation will commence a 2 minute recyclable investigative time delay which can be overridden by a manual release station causing an immediate discharge.
- Normally Occupied Space – Doors Opening in direction of travel

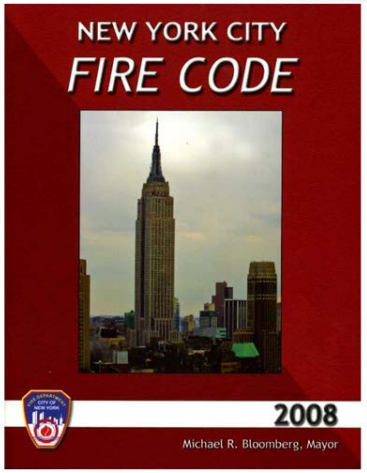
METRO PROTECTION SYSTEMS

Clean Agent Systems – RCNY 15-08

- Fixed emergency forced ventilation sufficient to accomplish six air changes per hour, unless:
  - System design is for Class A / C Fire
  - Design concentration does not exceed No Observable Adverse Effect Level
  - Thermal decomposition products formed from agents is below dangerous toxic load (DTL) for humans.
- Piping shall be pressure tested at maximum Discharge pressure for 10 minutes
- Enclosure shall pass an Enclosure Integrity Test per Appendix B of NFPA 2001 – 10 Minute hold time
- Annual Door Fan Integrity Test
- Annual Affidavit of Service submitted to FDNY

METRO PROTECTION SYSTEMS

Fire Code Evolution

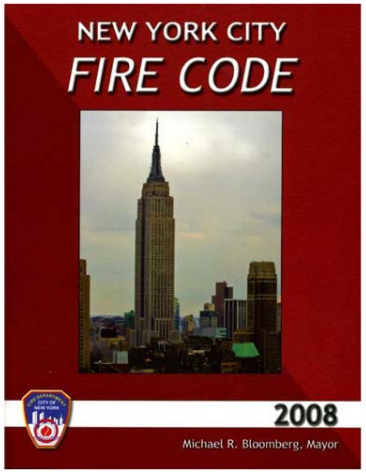


- New NYC Building Code and Fire Code Introduced in 2008
- New Requirements for Fire Alarm & Fire Protection Systems in all Occupancies
- FDNY Bulletins have been Issued to Modify and Update how Fire Detection & Suppression Systems are Designed & Installed – Sub Systems
- Fire Code 2008 now requires extensive inspections and maintenance to Fire Alarm & Fire Suppression Systems
- FDNY Now Provides Certificate of Approval
  - No longer is MEA Required (Department of Buildings Approvals of Equipment) FDNY to issue Approvals for Pre-Engineered Non Water Systems, including Systems for Commercial Cooking
  - Prefabricated Hoods and Grease Filters installed in Connection with commercial cooking systems
  - Fire Department Siamese Connections, standpipe system hose outlets, and pressure reducing valves
  - Fire Alarm System Control Panels
- Out of Service Systems – Now Covered by Specific Requirements for Action / Notification
  - Impairment Coordinator – Assigned by Building Owner
  - Tag / Disc Required
  - Notification to FDNY Borough Communications Office
- A New Fire Code is currently in Draft Review and will be issued shortly

METRO PROTECTION SYSTEMS

NYC Fire Code – 2008 Edition

- Chapter 9 - Covers all Building Fire Systems – Design, Installation, Operation, and Maintenance, including Inspections and Testing of Fire Protection Devices, equipment, and Systems, and other fire protection measures for the control and extinguishment of fire.
- Recognizes NFPA Standards as Reference Standards
- Kitchen Hood Extinguishing Systems – NFPA 17 or NFPA 17A
- Water Based Fire Protection Systems – NFPA 25 (Preaction)
- Halon 1301 Systems – NFPA 12A
- Clean Agent Fire Suppression Systems – NFPA 2001
- Fire Alarm Systems (Related to Sub-Systems) – NFPA 72
- Foam Water Sprinkler and Spray Systems – NFPA 16
- Watermist Systems – NFPA 750



METRO PROTECTION SYSTEMS

FDNY Bulletin 08-01-11 / 08-01-12

Bulletin # 08-01-12 (replaces EUIB 08-02-11)

- Application of any alternative automatic fire extinguishing system including, but not limited to carbon dioxide, clean agent, dry chemical, and halon shall be permitted only for protection of a single zone or any other subdivision, approved by Technology Management Unit, on the same floor.
- Integration of any alternative automatic fire extinguishing or sprinkler subsystem other than a conventional dry pipe systems, with the building fire alarm control panel (fire command center or station) shall not be permitted
  - Require a control panel listed for releasing service (not a relay from Building Fire Alarm System to trip solenoid)
- Application of sprinkler system for multi-hazard locations shall be limited to deluge, dry pipe and preaction type only.
- Multiple Hazard – Same Floor – Any initiating device is visibly indicated at control unit by the respective zone
- Multiple Hazard – Various Floors – Each alarm, supervisory, trouble is transmitted to control unit as a discrete point to allow for identification of floor and device location.
- Size of a single detection zone shall not exceed 22,500 square feet.
- Preaction Systems shall be single interlock only (Exception: Double Interlock is permitted in areas subject to freezing)

METRO PROTECTION SYSTEMS

FDNY Bulletin 08-01-11 / 08-01-12

Bulletin # 08-01-12 (replaces EUIB 08-02-11)

- Elimination of Preaction System Audible Devices – A sufficient Quantity of Building Fire Alarm Audio/Visual devices should be installed
- ALARM, SUPERVISORY, & TROUBLE SIGNALS to Bldg. FA
- If system is Multiple Fire Zones – Various Floors - ALARM, SUPERVISORY, & TROUBLE SIGNALS to Bldg. FA transmitted by specific floor and/or Zone
- Building fire alarm system smoke detector shall be installed at preaction control panel where installed in an area not continuously occupied
- Remote alarm indicator (Graphic Display or an Approved Map typically used with an Addressable System)
- Activation of waterflow alarm – initiating pressure switch shall not initiate Phase 1 “Emergency Elevator Recall”
- Each subdivided space within area protected by preaction or deluge sprinkler subsystem shall contain one or more automatic fire detectors installed in compliance with Chapter 5 of NFPA 72, 2002

METRO PROTECTION SYSTEMS

FDNY Bulletin 08-01-11 / 08-01-12

POWER FOR SUB SYSTEMS

- Fuse Cut-Out or General Service Disconnect Switch with Power Source Local to Protected Space
- Solid # 10 – Building Steel to Control Panel – No Bonding of Neutral
- Local disconnect switch for air compressor
- All sub-system components installed in EMT / Conduit with THHN or 150^0 FDNY Approved Cabling in accordance with Article 760 of 2011 Electrical Code.
- Preaction Panel located OUTSIDE of preaction protected space unless part of cabinet system – FirePac, PrePac, TotalPac
- Clean Agent Panel – Inside of Protected Space
- HVAC Shutdown – Required when HVAC Units are installed on a raised floor, cooling underfloor cables and initiated by an underfloor smoke detector.
- HVAC Shutdown – Not Required with stand-alone unit in preaction space where no raised floor exists
- Where panel is located in a concealed space, some means of identification (light / audible) indicating its location, shall be installed
- Preaction protected space shall be clearly identified with placard, which also lists the location of the preaction valve and control panel
- Cross zoning of smoke detectors for Preaction Systems is prohibited
- Tamper Valves / Air Supply – all electrically supervised – NO CHAINS
- Automatic shutdown of equipment and lighting circuits in IT room separated from other occupancies by fire resistant walls, floors, and ceiling is optional.

METRO PROTECTION SYSTEMS

FDNY Bulletin 08-01-11 / 08-01-12

- All detection devices used to control the operation of smoke/fire dampers and fan shutdown shall be powered from and monitored by the control unit.
- Raised floor of an IT Room used for installation of any power or communication cabling, the underfloor area shall be provided with smoke detection devices.
- Each subdivided space protected by preaction or deluge shall be provided with at least one manual pull station located within 5 feet of exit doorway. Location and quantity of additional release stations should be engineered to provide maximum life safety and fire protection.
- Permanent sign shall be mounted at each manual pull station to indicate the controlled system.
- Predischarge time delays and abort switches are prohibited from use in the deluge and preaction subsystems.
- The Class and Style of the initiating device and/or signalling line circuits shall be in accordance with the design specification and manufacturer's installation instructions.

METRO PROTECTION SYSTEMS

Water Based Fire Protection Systems (FC 903)

Preaction Sprinkler and Dry Pipe Systems (Cold Storage Areas)

- Inspections once a month – Trained and Knowledgeable Person to Access that the system is in good working order – Inspector must possess S-12 - Certificate of Fitness for Citywide Sprinkler Systems (or Operating Engineer Q-01 & Q-99 with S-12 Certificate of Fitness)
- Quarterly Testing conducted by Master Fire Suppression Piping Contractor or S-12 Certificate of Fitness Holder - Certificate of Fitness for Citywide Sprinkler Systems (or Operating Engineer Q-01 & Q-99 with S-12 Certificate of Fitness)
    - Tamper / Low Air / Waterflow
- Annual System Valve Flow/Trip Test conducted by Master Fire Suppression Piping Contractor
- Fire Alarm components associated with water based fire protection system require semi-annual cleaning (smoke detectors) and annual smoke entry / sensitivity testing
- Fire Alarm Technician must possess S-98 - Fire Alarm Systems Inspection, Testing, and Service Technician Certificate of Fitness (Cleaning Technician Only may possess S-78 C of F)

METRO PROTECTION SYSTEMS

Water Based Fire Protection Systems (FC 903)

- Standpipe Systems
  - Inspections once a month – Trained and Knowledgeable Person to Access that the system is in good working order – Inspector must possess S-13 - Certificate of Fitness for Citywide Standpipe Systems (or Operating Engineer Q-01 & Q-99 with S-13 Certificate of Fitness)
  - Quarterly Testing conducted by Master Fire Suppression Piping Contractor or S-13 Certificate of Fitness Holder - Certificate of Fitness for Citywide Standpipe Systems (or Operating Engineer Q-01 & Q-99 with S-13 Certificate of Fitness)
    - Waterflow
    - Tamper Valves
  - Annual System Flow Test conducted by Master Fire Suppression Piping Contractor

- **<u>John Bower to discuss this at October Meeting</u>**

METRO PROTECTION SYSTEMS

Foam Water Fire Suppression Systems (FC 904.7)

- Water Based Foam Systems – Low Expansion or High Expansion

NYC Suppression Systems (Foam) Require Monthly Visual Inspections conducted by a Trained and Knowledgeable person to access whether the system is in good working order. (FC 904.7.1)

A Licensed Master Fire Suppression Piping Contractor shall inspect, test service, and otherwise maintain such systems on an Annual basis.

METRO PROTECTION SYSTEMS

Carbon Dioxide Fire Suppression Systems (FC 904.8)

- Existing total flooding carbon dioxide fire extinguishing systems installed to protect normally occupied areas prior to the effective date of this code (July 2008) may be continued in service until July 1, 2013, after which they will be removed from service, and a replacement fire extinguishing system shall be installed.
- NYC Suppression Systems (Carbon Dioxide) Require Monthly Visual Inspections conducted by a Trained and Knowledgeable person to access whether the system is in good working order. (FC 904.8.1)
- A Licensed Master Fire Suppression Piping Contractor shall inspect, test service, and otherwise maintain such systems on a Semi-Annual basis.

METRO PROTECTION SYSTEMS

Halon 1301 – Fire Suppression Systems – (FC 904.9)

- Halon
  - First true clean agent fire suppression
  - Fast suppression
  - Minimal damage
  - SAFE for occupied spaces
  - Ozone Depleting Gas
    - Molecular structure similar to Freon
- NYC Suppression Systems (Halon 1301) Require Monthly Visual Inspections conducted by a Trained and Knowledgeable person to access whether the system is in good working order. (FC 904.9.1)
- A Licensed Master Fire Suppression Piping Contractor shall inspect, test service, and otherwise maintain such systems on a semi-annual basis.

METRO PROTECTION SYSTEMS

Clean Agent Fire Suppression Systems (FC 904.10)

- NYC Suppression Systems (Clean Agent) Require Monthly Visual Inspections conducted by a Trained and Knowledgeable person to access whether the system is in good working order. (FC 904.10.1)

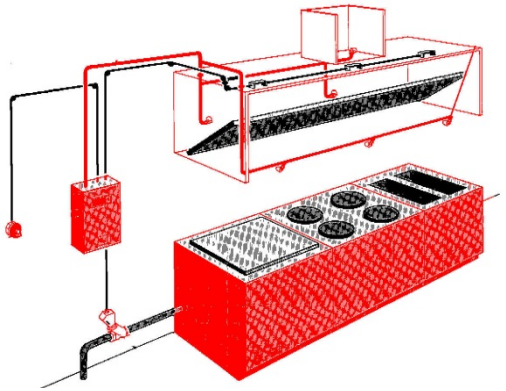
- FDNY No longer requires Submission of Annual Affidavit of Service to FDNY Suppression Unit

- A Licensed Master Fire Suppression Piping Contractor shall inspect, test service, and otherwise maintain such systems.

METRO PROTECTION SYSTEMS

Kitchen Hood Extinguishing Systems (FC 904.11)

- Systems must be in compliance with UL 300 – Wet chemical systems only – can no longer install dry chemical for Kitchen Systems
- Inspections once a month – Trained and Knowledgeable Person to Access that the system is in good working order
- Quarterly Cleaning of Exhaust System - Hood, Filters, Grease Removal devices, Ducts, Fans, Pollution Control Devices, etc.
    - Cleaning Technician must possess W-64 - Commercial Kitchen Exhaust System Cleaning Technician Certificate of Fitness
- Semi-Annual Testing conducted by Master Fire Suppression Piping Contractor - Must have Factory Certification for the specific brand of system that is being serviced



METRO PROTECTION SYSTEMS

Watermist Fire Suppression Systems (FC 904.12)

- Systems create fog like environment to suppress fire
  - Marrioff (UTC)
  - Secureplex
  - Victaulic (Vortex)
  - Fike

METRO PROTECTION SYSTEMS

Watermist Technology

- Micro droplets of Watermist created by discharging water at high pressure through specially designed sprinkler of spray heads.

	Typical Drop Size range (mm)	Number of Droplets per Liter of Water	Surface Area (mm^2)
Conventional Sprinkler head	1 – 5	15,000 – 2,000,000	1 - 6
Low Pressure Water Mist	0.2 – 1	2,000,000 – 250,000,000	6 – 30
High Pressure Water Mist	0.025 – 0.2	250,000,000 – 1,500,000,000	30 - 250

METRO PROTECTION SYSTEMS

Watermist Technology

- Subway Tunnels
- Attic Spaces
- Alternative to Preaction - NYC

METRO PROTECTION SYSTEMS

Watermist Fire Suppression Systems (FC 904.12)

- NYC Suppression Systems (Watermist) Require Monthly Visual Inspections conducted by a Trained and Knowledgeable person to access whether the system is in good working order. (FC 904.12.1)

- A Licensed Master Fire Suppression Piping Contractor shall inspect, test service, and otherwise maintain such systems on an Annual basis.

METRO PROTECTION SYSTEMS

Inspections / Service Summary

SYSTEM	MONTHLY INSPECTION REQUIRED	QUALIFICATIONS FOR MONTHLY	TESTING FREQUENCY	QUALIFICATIONS	FDNY TESTING
KITCHEN	YES	TRAINED & KNOWLEDGABLE	SEMI-ANNUAL	W-64 / FACTORY CERTIFIED TECHNICIAN	INITIAL INSTALL
PREACTION	YES	S-12	QUARTERLY	S-12 / MFSPC	ANNUAL TRIP 5 YR. FDNY
HALON	YES	TRAINED & KNOWLEDGABLE	SEMI-ANNUAL	MFSPC	INITIAL INSTALL
CLEAN AGENT	YES	TRAINED & KNOWLEDGABLE	SEMI-ANNUAL	MFSPC	INITIAL INSTALL
WATER - FOAM	YES	TRAINED & KNOWLEDGABLE	QUARTERLY	MFSPC	INITIAL INSTALL
CARBON DIOXIDE	YES	TRAINED & KNOWLEDGABLE	SEMI-ANNUAL	MFSPC	INITIAL INSTALL
WATERMIST	YES	TRAINED & KNOWLEDGABLE	QUARTERLY	MFSPC	INITIAL INSTALL

METRO PROTECTION SYSTEMS

New Challenge - Hot & Cold Aisle

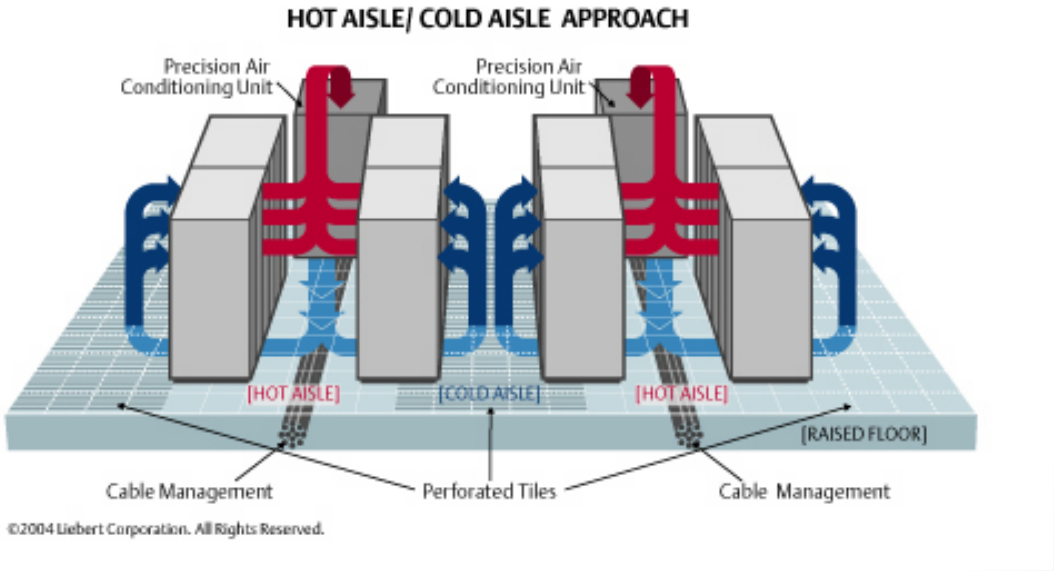
METRO PROTECTION SYSTEMS

New Challenge - Hot & Cold Aisle

METRO PROTECTION SYSTEMS

Hot & Cold Aisle

- Total Flood Clean Agent is often needed
- Solution driven; case by case
- Curtains can be treated as walls or obstructions
- Total enclosures would be treated as separate hazards
- Hot and Cold preparation is a fire protection engineered solution



METRO PROTECTION SYSTEMS

Changing Codes – Again

NFPA 2001 – Standard on Clean Agent Extinguishing Systems – 2012 Edition - Updates

- New Guidelines on High Pressure Clean Agents – HFC-227& FK-5-1-12 stored at 600 PSI or 725PSI

- Actuation Device Supervision
  - 4.3.4.1 & 4.3.4.2 – Removal of an electric actuator from the agent storage container discharge valve or the selector valve shall result in an audible and visual indication of system impairment – **Effective January 1, 2016**

- Location of Mandatory Disconnect Switch
  - 4.3.6.1 - To avoid unwanted discharge of a clean agent system, a supervised disconnect switch shall be provided – lockable fire alarm panel or enclosure cabinet or key operated and key cannot be removed

METRO PROTECTION SYSTEMS

NFPA 2001 – Standard on Clean Agent Extinguishing Systems – 2012 Edition - Update

- Sub-Floor Protection - 5.3.5 – When a clean agent total flooding system is being provided for the protection of a room with a raised floor, or sunken floor, the room and raised or sunken floor shall be simultaneously protected. Each volume, room, and raised or sunken floor to be protected shall be provided with detectors, piping network, and nozzles.

- If only the space under the raised floor is to be protected by a total flooding system, an inert gas shall be used to protect the space.

- Inert Discharge Time - 5.7.1.2.2 – For inert gas agents, the discharge time required to achieve 95 % of the minimum design concentration for flame extinguishment shall not exceed 60 seconds for Class B Hazards, and 120 seconds for Class A or Class C hazards

METRO PROTECTION SYSTEMS

NFPA 2001 – Standard on Clean Agent Extinguishing Systems – 2012 Edition - Updates

- Compatibility – 4.3.4.3.1 – The control equipment shall be specifically listed for the number and type of actuating devices utilized, and their compatibility shall have been listed.

Fike FM-200 with Kidde Control Panel and Pyrotronics Smoke Detectors

Chemetron FM-200 with Notifier Control Panel and Fike Selector Switch

METRO PROTECTION SYSTEMS

NFPA 2001 – Standard on Clean Agent Extinguishing Systems – 2012 Edition – Updates
Minimum Design Concentration

	HFC-227 (FM-200)	FK-5-1-12 (Novec 1230)	HFC-125 (Ecaro)	IG-55 (Argonite)	IG-541 (Inergen)
Class A or C Fire (2004 EDITION)	6.25 (7.0 – NYC)	4.2	8	37.9	34.2
Class A (2012 EDITION)	6.7	4.5	8.7	37.9	34.2
(Increase in Concentration)	+7%	+7%	+9%	None	None
Class C (2012 Edition)	7	4.7	9	42.7	38.5
(Increase in Concentration)	+12%	+12%	+13%	+13%	+13%

METRO PROTECTION SYSTEMS

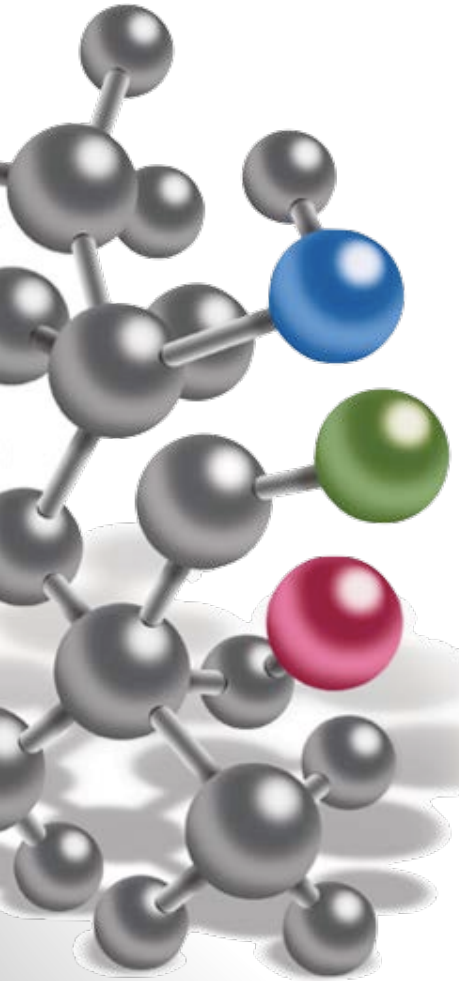
New Technology - Aerosol Suppression

- Included in Draft for latest Revision of Fire Code
- Flow characteristics similar to gaseous agents. Remains suspended in air for extended period of time providing long hold times - up to 1 hour.
- Suppression Mechanism:
  - Primary suppression mechanism is chemical interference with free radicals of flame.
  - Interrupts propagation of fire.
  - Secondary mechanisms include:
  - Dilution of flammable medium with inert gases.
  - Cooling.
- Results in very rapid suppression with a minimal amount of agent.
- Weight and space reductions up to 90% over conventional systems.

METRO PROTECTION SYSTEMS

New Technology - Aerosol Suppression

Q. How does Aerosol Fire Suppression Work?



"Free Radicals," are essential to the propagation of a fire - (OH, H & O). Aerosols suppresses the fire primarily by chemical interference with these "free radicals" within the fire zone.

➢Free radical – an uncharged molecule (typically highly reactive and short-lived) having an unpaired valence electron.

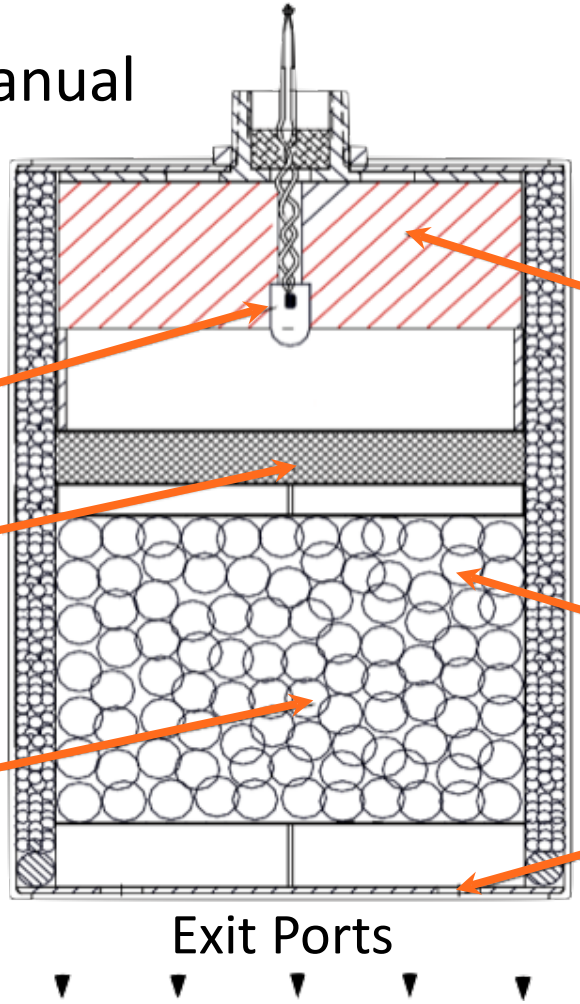
Potassium radicals (K) are the main active component of the aerosol.
These potassium radicals react with the radicals of the flame.

METRO PROTECTION SYSTEMS

New Technology - Aerosol Suppression

Electrical / Thermal / Manual

(internals vary depending on size of units)



Upon activation, an aerosol of ultra-fine particles (≤ 2 micron) is dispersed under low pressure (< 50 psi)

METRO PROTECTION SYSTEMS

Review – Learning Objectives

1. What (3) signals must be transmitted to the building fire alarm system on a NYC Sub-System?
2. For a NYC installed preaction system, are time delays / aborts permissable for installation?
3. Double Interlock Preaction Sub-Systems in NYC are permitted for what type of application?
4. For a Class C Fire using the new guidelines for FM-200 System design in NYC, how large a percentage will the design criteria increase?
5. On what date did the FDNY restrict the installation of Carbon Dioxide systems for Normally Occupied areas?
6. What is the criteria required in order to conduct a Monthly Visual Inspection of a Clean Agent system?

METRO PROTECTION SYSTEMS

Answers

1. What (3) signals must be transmitted to the building fire alarm system on a NYC Sub-System?
   A. ALARM, TROUBLE, SUPERVISORY – FDNY BULLETIN 08-01-12 – 4.2.1.1
2. For a NYC installed preaction system, are time delays / aborts permissable for installation?
   A. NO – FDNY BULLETIN 08-01-12 - 4.3.4.1.3
3. Double Interlock Preaction Sub-Systems in NYC are permitted for what type of application?
   A. AREAS SUBJECT TO FREEZING - FDNY BULLETIN 08-01-12 - 4.3.1.2

METRO PROTECTION SYSTEMS

ANSWERS

4. For a Class C Fire using the new guidelines for FM-200 System design in NYC, how large a percentage will the design criteria increase?
   A. 0 % IF FOLLOWING ORIGINAL 7% DESIGN OF FDNY – 12% IF FOLLOWING 6.25% UL LISTING
5. On what date did the FDNY restrict the installation of Carbon Dioxide systems for Normally Occupied areas?
   A. JULY 1, 2013 – FC 904.8
6. What is the criteria required in order to conduct a Monthly Visual Inspection of a Clean Agent system?
   A. NYC Suppression Systems (Clean Agent) Require Monthly Visual Inspections conducted by a Trained and Knowledgeable person to access whether the system is in good working order. (FC 904.10.1)

METRO PROTECTION SYSTEMS

Conclusion – Questions?

METRO PROTECTION SYSTEMS