



VFC LIGHTNING RESILIENT FACILITIES PROGRAM

IS YOUR BUILDING
LIGHTNING RESILIENT?
VFC CAN HELP YOU FIND OUT.



Total Lightning related damage and disruption currently \$8 to \$10 Billion annually, with costs going up at nearly 20% p/yr.



Building owners have already spent Tens of Thousands even Hundreds of thousands of dollars on Lightning Protection Systems without any understanding if they are currently protected.



For a High-Rise Buildings or Large Facilities, it's not if, but when, and how often.



Lightning Protection has become a key component in the Resilient Facilities Initiative.

INTRODUCING

VFC Lightning Resilient Facilities Program.

The first and only comprehensive **Lightning Resilience Inspection Program** ensuring the return on investment for your Lightning Protection systems. Available across the US and Internationally. Annual pricing as low as \$500 p/year.

WHAT'S INSPECTED?

- ✓ Structural Lightning Protection
- ✓ Utility Service Entrances
- ✓ Stand-By Generators
Automatic Transfer Switches
- ✓ Process Controls
- ✓ Elevator Controls
- ✓ Building Alarm & Security Systems
- ✓ Wi-Fi & Cellular Signal Boosters/
Range Extenders

STRUCTURAL LIGHTNING PROTECTION

A well designed, installed and maintained structural lightning protection system consisting of air terminals, conductors, and grounding electrodes is required to protect the physical structure from damaging effects of a direct lightning strike. It is recommended that a visual inspection be performed annually on all lightning protection systems to identify degradation due to the elements. A more thorough, certification, inspection should be performed every five years to ensure the lightning protection system still protects all the roof mounted equipment and complies with current specifications.

UTILITY SERVICE ENTRANCES

These utilities may include electrical, telephone, natural gas, water, cable/satellite TV, and RF. It is of utmost importance that these circuits be inspected for the presence of surge protection, a low resistance grounding electrode system and proper bonding. These are integral components of any site protection system audit/inspection.

STAND-BY GENERATORS AND AUTOMATIC TRANSFER SWITCHES

In a facility that provides services to businesses requiring uninterrupted electrical services, a stand-by electrical generator is a must. These generators require a fuel supply, automatic transfer switch (ATS), and an uninterruptible power supply (UPS) all working in tandem to ensure the critical equipment does not lose electricity when the utility provided electricity is interrupted. All of these items are either volatile or controlled by sensitive electrical components that need surge protection and grounding/bonding.

ELEVATOR CONTROLS

Most multiple story buildings have at least one elevator. Many times, the elevator motors, electrical panels, and controls are in a rooftop penthouse with metallic cables, cylinders, control wires, and communication lines routed through the elevator chase. All these conductors are prone to same direct and indirect (induced) fault current and voltages as mentioned above. While the National Electrical Code (NFPA-70) requires all apparatus to have a ground fault current path, this path is usually a relatively small green wire which will have an extraordinarily high impedance at higher frequencies.

BUILDING ALARM AND SECURITY SYSTEMS

These systems run throughout the entire facility and are all tied back to a central monitoring/control area. The monitoring/control area is powered by one electrical branch circuit while the individual cameras, keypads, maglocks, and smoke/carbon monoxide sensors are all powered by different branch circuits. Their video/data/electrical wires traverse miles of conduits and chases. These wires are susceptible to both direct and indirect (induced) fault currents as they run from the individual units to the monitoring/control area.

WI-FI AND CELLULAR SIGNAL BOOSTERS/RANGE EXTENDERS

As technology advances, so does the frequency of our wireless communications. 5G in the 24 GHz range or above uses higher frequencies than 4G, and as a result, some 5G signals are not capable of traveling large distances (over a few hundred meters), or traveling through multiple walls, unlike 4G or lower frequency 5G signals (sub 6 GHz). These Boosters/Range Extenders will have both power and signal conductors that require surge protection, bonding and grounding.