VACANT BUILDING FIRES

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1. INTRODUCTION

1.1 As compared to occupied buildings, fire operations in vacant buildings pose an increased level of risk to firefighters. While the FDNY has saved countless civilian lives in occupied buildings using an aggressive, interior attack strategy, a building’s status as “vacant” changes the risk-reward calculation. Members must consider that vacant structures may be weakened and unstable because of age, neglect, vandalism, and exposure to weather, and that there is an extremely low probability of life hazard associated with such buildings. Further, the likelihood of arson and other special hazards make fire operations more dangerous. This combination of factors must alter members’ tolerance for risk, requiring a slower, more cautious fire attack that emphasizes a defensive exterior attack strategy. Firefighting Procedures - Vacant Building Fires will identify the special hazards and size-up variables associated with vacant buildings and outline the appropriate modifications to the Department’s risk-assessment guidelines. Understanding these principles will minimize operational risk and promote safer, more effective outcomes at vacant building fires.

2. DEFINITION OF VACANT BUILDINGS

2.1 For the purpose of this bulletin, a vacant building is defined as a structure that is completely unoccupied, where the owner has abandoned all efforts to maintain the building. These buildings are typically open, unguarded, lack operating utilities and are not maintained in a safe condition.

A building’s status may also fall into other categories:

- A partially occupied building may have occupants remaining in certain portions of the building, while other sections have been abandoned - this should be considered an occupied building.

- A temporarily unoccupied building may be well-maintained while unrented, for sale or under renovation. Many private dwellings and commercial occupancies (e.g., retail stores) fall into this category.

In order to distinguish between building categories during size-up and define a building as “vacant,” members must attempt to determine whether a building is occupied and assess the building’s current condition and degree of maintenance.

Some of the hazards discussed in this bulletin may exist in buildings that are not identified with vacant building markings. Units should consider taking precautions consistent with Firefighting Procedures - Vacant Building Fires whenever a size-up and risk-assessment indicate an excessive level of risk.
3. **VACANT BUILDING MARKINGS**

3.1 All vacant buildings shall be marked using the following symbol:

![Vacant Building Marking Symbol]

Vacant building markings shall be made using the following format:

- Markings shall be spray painted using lime-yellow reflective paint.
- The size of the square shall be approximately 18" x 18".
- Marking lines shall be 2" wide.
- Primary markings shall be made alongside the front entrance of the building at a height that is in line with the area directly over the front entrance. Markings should be high enough to ensure visibility. To achieve this height, a ladder may be required.
- If the building has multiple entrances or other likely means of access, additional markings shall be made at other places (e.g., rear or side entrance, fire escape, roof bulkhead, etc.)
- Do not mark sealed doors or windows. The structure should be marked at locations that are likely to remain undisturbed.
- The letters “RO” (roof open) shall be made directly over the vacant building markings in cases when a roof is opened to the degree that there is little need for future vertical ventilation (e.g., the roof has been previously cut or burned away).
- The letters “FO” (floor openings) shall be made directly underneath vacant building markings in cases when members determine that floors within the building have holes or openings that may endanger members.
- Buildings shall be marked when first identified as vacant, including during BISP periods.
- Any company may place vacant building markings using the prescribed format. As soon as possible thereafter, the supervising officer must notify the administrative company that the building has been marked.

In addition to placing vacant building markings at the site, company officers from the administrative unit shall take the following actions in order to share information and initiate appropriate follow-up referrals:

- Ensure that all vacant buildings in their administrative districts are entered into the eCIDS program. The entry should state that the building is vacant and list any potential operational issues and special hazards.
• Forward a memo to all units and administrative Battalion and Division within the first-alarm area, conveying relevant information.

• When appropriate, forward a Department of Buildings (DOB) Referral Report - Normal Priority to DOB citing “Building Vacant, Open and Unguarded.”

• When appropriate, forward a High Priority DOB Referral Report citing “Structural Stability Affected” if there are structural integrity issues, noting specific building conditions.

Note: The New York City Fire Code contains provisions requiring building owners of vacant and temporarily unoccupied buildings to secure exterior and interior openings, maintain fire protection systems (fire alarms, sprinklers and standpipes), maintain fire separations, remove combustible waste, and remove hazardous materials. Items not in compliance with the Fire Code may be enforced with a VO or FDNY summons, or referred to FPOSU via an A-8 Fire Department Referral Report.

4. SIZE-UP

When initiating fire operations at any incident, every member at the scene must perform an individual, ongoing size-up and understand the factors that affect members’ safety and the outcome of the operation. Members should avoid “tunnel vision” by first considering the general considerations that affect the initial decision-making process, and then focus on the specific considerations that assist in adjusting strategy and tactics throughout the fire.

4.1 GENERAL CONSIDERATIONS

While performing a size-up, it is important to remember that the challenges and hazards at vacant building fires are substantially different as compared to occupied buildings. As such, members should initially consider four broad size-up concerns:

1. **Protection of Life** is the most important concern during the size-up process. In this regard, it is important to understand that, although vacant buildings are less likely to contain occupants, it is still imperative to consider the potential for a life hazard. A known life hazard must be addressed within the limits of safety.

2. **Member Safety** is the highest priority during the risk-assessment process. Consequently, vacant building fires warrant a firefighting strategy that is more risk averse than operations in occupied buildings, as firefighters represent the sole life hazard at an overwhelming majority of vacant building fires.

3. **Structural Stability** of vacant buildings is a serious concern during all phases of the size-up process. Members should anticipate an increased potential for both localized and catastrophic building collapse and be able to recognize the signs and indicators of instability. This factor significantly affects the risk-reward calculation when performing a size-up.

4. **Extension to Exposures** is a serious concern during fire operations at vacant buildings. This is because extension to the surrounding exposures is more likely to occur at fires involving vacant buildings. A fire in an open, unguarded vacant building is more likely to extend to an exposure than a similar fire in an occupied building.
4.2 SPECIFIC CONSIDERATIONS

After addressing general considerations, members must narrow the scope of their size-up to include the specific features and hazards associated with vacant buildings. As such, the traditional FDNY thirteen-point size-up should be tailored to assess vacant buildings in a standardized, systematic way that emphasizes the following variables:

1. CONSTRUCTION: The construction characteristics of a vacant building must be assessed in order to evaluate the current condition and stability of the structure. This assessment should include:
   - The construction classification: (e.g., ordinary brick and joist, wood frame, heavy timber, lightweight construction, etc.).
   - The degree of maintenance: (e.g., signs of abandonment, a lack of maintenance, deterioration due to age and weather, etc.). The degree of instability is affected by the length of time that the building has been vacant.
   - The condition of visible building features and structural members: (e.g., floors that are sagging - indicated by doors or window frames that are out of line, plaster walls with diagonal cracks, cracks between walls and ceiling plaster, evidence of beams pulling away from bearing walls, ceilings that are bowed, exterior walls that are cracked or out of line - indicated by bowing or bulging walls, window frames that are out of line, lintels that are cracked, bricks that are loose or missing, etc.).
   - Signs of previous fires: (e.g., charred or blackened structural members, conical soot stains above windows, overhaul debris, sections of floors, roofs, partitions, interior walls, and stairs that are burned away or missing, etc.)
   - The building’s status as “sealed” or “unsealed.” Unsealed buildings are more likely to be structurally unstable than sealed buildings for a variety of reasons, such as exposure to weather, access by vandals, etc. They also present a higher probability of fire extension to exposures. On the other hand, sealed buildings restrict egress for firefighters, making search operations extremely risky. Therefore, both scenarios constitute an increased level of risk as compared to occupied buildings, which is a size-up factor that should significantly affect members’ risk-reward calculation.

2. OCCUPANCY: It is important to determine the previous occupancy as this factor may affect the level of risk associated with the building (e.g., residential, commercial, factory). For example, in general, abandoned warehouses or factories present greater dangers than residential buildings. In addition to large, wide-open spaces and maze-like conditions, members may encounter shafts, abandoned machinery, industrial materials or stock, flammable or combustible liquids, and other hazardous materials. Vacant commercial and industrial buildings also typically have large accumulations of rubbish in the building, which may increase the fire load and contribute to the spread of fire.

   Note: When operating at commercial buildings, members should be wary of stock or porous materials that have absorbed water from previous fires, or have been exposed to rain or snow. The added water weight may create an excessive floor load or cause materials to expand, applying lateral forces to load-bearing walls or columns - either condition may cause collapse.
3. AREA: Fires in large-area vacant buildings, such as warehouses and factories, carry an increased level of risk in regard to search procedures. In addition, depending on the square footage of the fire area, it may be difficult or impossible to extinguish fires in large, open areas with interior hose lines because there may not be enough water flow to cool the superheated temperatures.

4. LIFE: The probability of encountering a life hazard in vacant buildings is extremely low as compared to occupied buildings, according to nationwide NFIRS data collected by the U.S. Fire Administration. Still, members should consider the possibility of transient occupants being trapped inside vacant buildings such as homeless people, vandals, workers or children. In addition, it is possible for people to be living in buildings that appear vacant. The following features may indicate the presence of occupants “squatting” in apparently vacant buildings:
   - Lights in the windows of some apartments.
   - Curtains, window shades, plants, window gates.
   - Electric extension wires strung from a utility pole to a window, running from the window of an occupied adjoining building, or running through the backyard of an occupied rear building.
   - Open doors or windows, or signs of forced entry in a sealed building.

5. WATER: While water supply is always critical, members should be especially cognizant of water delivery problems because of the tendency of vacant building fires to expand rapidly and endanger exposures - especially during the early stages of the fire. In addition, large water flows may be necessary in order to supply large caliber exterior streams. This may require water relay or augmentation procedures.

6. APPARATUS: Units should consider the types of apparatus assigned on the response ticket when positioning their apparatus. For example, a Tower Ladder should be placed in front of the fire building because of the increased likelihood of an exterior attack. Also, it may be desirable to place an Engine Company in close proximity to the building, outside of the collapse zone, in order to operate the deckpipe for an exterior attack.

7. STREET CONDITIONS: Street conditions may create access problems because of their width, parked cars, local topography, downed electrical wires, etc. In addition, hydrant location may complicate water supply operations. Consider the possibility of access to the building from other streets, courtyards, and alleys.

8. WEATHER: Members must consider that prolonged exposure to the elements can exact a heavy toll on the stability of vacant buildings, creating a collapse hazard. Wooden structural members may be rotted from water damage, while the expansion and contraction in masonry caused by the freeze-thaw cycle can cause walls or parapets to become unstable. During firefighting operations, wind may present a serious hazard, as unsealed vacant buildings may have numerous openings.
9. **EXPOSURES:** Exposed, occupied buildings or occupancies may be the primary concern at vacant building fires. This is based on whether or not life is endangered in exposures, or in the absence of a life hazard, on the amount of property exposed. It is also important to remember that fire extension to exposures is more likely to occur at vacant buildings than at occupied buildings.

10. **AUXILIARY APPLIANCES:** Fire protection systems, such as sprinklers and standpipes, are more likely to be unserviceable at vacant buildings that are not maintained. This may result from damage or illegal removal of sprinkler or standpipe system components. Also, fire systems may be out-of-service because the water supply has been shut down.

11. **LOCATION OF THE FIRE:** The ability to access fires safely is a critical factor at vacant building fires. Fires that are located in hard-to-reach areas, such as cellars or windowless interior rooms, may significantly delay operations. In addition, fires in these areas may be inaccessible to outside master streams, as many vacant buildings have been sealed with HUD windows or concrete blocks.

12. **TIME:** Vacant residential fires tend to occur most frequently during the late-night to early-morning hours, peaking from 10 p.m. to 2 a.m. At this time of the night, fires may go unnoticed for longer periods, leading to delayed reports to the 911 system. Conditions upon arrival may be advanced and could present immediate exposure problems, particularly when vacant buildings are open and unsealed.

13. **HEIGHT OF THE BUILDING:** A building’s height adds logistical complexities because of the challenges associated with moving members, equipment and water to the upper floors. In addition, building height can also increase the potential for collapse in wood-frame buildings (e.g., a 3-story wood-frame building may be more collapse prone than a similar 2-story wood-frame building because of the increased dead load imposed on first-floor structural supports by the weight of the upper floors).

### 4.3 ARSON IN VACANT BUILDINGS

Many vacant building fires are suspicious or incendiary in nature. Arsonists set fires in abandoned buildings for a variety of reasons including vandalism, profit, revenge, crime concealment or excitement. Vacant building fires account for a large percentage of all intentionally set structure fires. Considering that such a large proportion of these fires are purposely set by arsonists, members should pay special attention to the following arson-related dangers:

- **Accelerants** may be spread over several floors and ignited on a lower floor. This could create a heavy volume of fire on multiple floors within a short period of time.

- **Diesel fuel** may be used as an accelerant. These fires begin slowly but progress rapidly as vapor production intensifies. For this reason, arsonists may spread diesel fuel on all floors of the building in order to produce a fire of greater magnitude. A small initial fire may spread rapidly throughout a vacant building and trap members who are unable to safely exit the building. When encountering diesel fires, high heat will be present for a longer duration than similar fires involving gasoline (which ignites rapidly and is consumed more quickly). While both types of accelerants will produce intense conditions, diesel fires will ignite more of the combustible materials in the fire area and increase the severity of the fire.
• Separate fires may be intentionally set within a building - one on a lower floor and another on the top floor. In this situation, a top-floor fire may be evident on arrival and attract an initial interior attack. While members are advancing to the top floor, however, an undetected fire may flare up suddenly on a lower floor endangering members above. In some cases, such fires have been initiated using delayed-ignition devices.

• Fires may be purposely set in the center or rear of a building. This could prevent members from gaining safe access to the fire area with hoselines and prevent Tower Ladders from effectively using exterior, large caliber streams.

• Fires may be set in alternate buildings within rows of vacant buildings. This tactic can spread fire to multiple exposures. Such fires might extend to involve three or four buildings, merge into a common body of fire, and severely expose surrounding occupied structures.

• Large accumulations of discarded furniture and other rubbish may be purposely positioned and doused with an accelerant in order to create a rapidly expanding fire that extends throughout the building.

• Heavy furniture may be used to block the entrance of a building or an apartment and delay access to the fire area. Members must use extreme caution, as blocked access and egress points could entrap members who have gained access through other doors or windows.

4.4 SPECIAL HAZARDS IN VACANT BUILDINGS

While the following hazards may be present in any building, members should be particularly alert to the following dangers and operational issues in vacant buildings because of the lack of maintenance and site security:

• Fires in vacant buildings often spread rapidly via interior and exterior openings (e.g., unsealed windows, and holes in floors, roofs and walls). Openings allow a free flow of oxygen to reach the fire area, supplying incipient fires with the critical airflow that tightly sealed buildings sometimes lack. This characteristic threatens exposures during the early stages of an operation and may make conditions unsafe for interior operations, particularly on the floors above the fire.

• Stairways with treads and half landings constructed of marble present a serious collapse hazard to members. The marble slabs associated with these stairways, typically found in New Law tenements, including H-types, may be cracked or broken after years of neglect. Also, stairway platforms may fail during fires as a result of heat and flame impingement. The collapse potential of treads and landings is exacerbated by their support system. Marble slabs may be held in place by only a thin strip of 3/4" angle iron at the perimeter of the landing, and the angle-iron framework may have deteriorated with age. These factors can cause steps or landings to collapse under a member's weight, allowing the member to fall through a landing to the floor below. Such a fall could trigger a progressive collapse resulting in multiple landing failures; FDNY members have been severely injured in this way.
• Members must use extreme caution when using fire escapes at vacant buildings. Because vacant buildings are not maintained, fire escapes may be in an extreme state of disrepair. The connections to the building may be rusted, loose, or missing, and this may contribute to a collapse of the entire fire escape. In addition, the bolts of fire escape treads may also be rusted, loose, or missing. This could lead to step failure, which is a common cause of injury to firefighters. Drop ladders associated with these fire escapes may also be more likely to fall free from their supports and strike members or civilians; the weight of these heavy steel ladders could cause severe injuries. When the use of fire escapes at vacant buildings is absolutely necessary, members should be alert to potential collapse danger and devote more attention to the stability of the system and its connections.

• It is relatively common to find holes of varying sizes in the floors or roofs of vacant buildings. These holes may be open, or they may be covered over with thin materials, such as sheets of wood, linoleum or cardboard. Such coverings may obscure the presence of the opening and may collapse under a member's weight, leading to severe injuries. Another hazard regarding floor openings at vacant buildings consists of large holes or shafts that extend vertically from the first floor to the top floor. These shafts are cut in floors by contractors for demolition purposes, or by vandals who strip buildings and steal building materials. Such shafts are created by cutting the floor deck and removing the floor beams. This allows debris, such as bathtubs, toilet bowls, sinks, furniture, etc. to be dropped down to the first floor for removal. Members operating within vacant buildings must anticipate the possibility of these shafts, and be cognizant of falling hazards and the potential for rapid fire spread throughout the building. In addition, the practice of cutting floor beams dangerously weakens the load-bearing capacity of floors, creating a serious collapse hazard.

• Members should aware of possible exposure to chemical and biological hazards in vacant structures. Hazardous materials consistent with the previous occupancy may have been abandoned inside a building, or there may be unexpected chemicals or substances that have been illegally dumped or discarded. In addition, there may be biological hazards inside vacant buildings such as drug paraphernalia or needles, human or animal excrement, dead or decaying human or animal bodies, and vermin. Members shall properly don all PPE and adhere to exposure reporting procedures as per FDNY polices.

5. STRATEGY FOR VACANT BUILDING FIRES

5.1 RISK ASSESSMENT FOR DETERMINING THE INITIAL ATTACK STRATEGY (INTERIOR VS. EXTERIOR)

During the initial stages of an operation, the Incident Commander (IC), who may be the first-arriving officer, may have to determine the initial attack strategy (i.e., whether to implement an interior or exterior attack) until the arrival of a higher-ranking member. In order to make this determination, a risk assessment must be performed, bearing in mind that the highest priorities are members’ safety and the life hazard.
Depending on the IC’s risk assessment, it may be appropriate to implement an interior attack at a vacant building fire in order to quickly extinguish an incipient fire and protect exposures. However, based on the level of risk, the IC should understand that an interior attack is not mandatory. At many vacant building fires, an interior attack may be too dangerous and should not be attempted.

When performing a risk assessment in anticipation of interior operations, the IC must weigh the risk versus reward (in terms of the risk to members’ safety versus the potential for civilian life hazard) based on the following factors:

- Size and intensity of the fire.
- Location of the fire within the structure.
- Structural stability of the building.
- Safe access to the fire area.

In addition, when calculating the risk versus reward, the IC must consider the FDNY’s risk management guidelines:

- Keep significant risk to members limited to potential life-saving situations.
- No risk to the safety of members is acceptable when there is no possibility of saving life or property.
- Inherent risks of routine activities should be reduced or minimized.

Before any interior operation is initiated, three points must be stressed:

1. In vacant buildings, the life hazard is typically limited to firefighters. A slower, more cautious operation should be initiated.
2. More time than usual must be devoted to the size-up of the situation.
3. The IC must minimize members’ interior operational time and maximize their level of supervision.

5.2 LARGE OR ADVANCED FIRES

At large or advanced fires, the primary attack strategy should consist of a defensive exterior attack and should focus on the protection of exposures. The IC may vary from this guideline in critical situations involving life hazards.

If a vacant building is heavily involved in fire with heavy smoke emanating under pressure from doors and windows, the interior environment may be too severe for both civilians and members to survive. Members’ lives shall not be risked within untenable, collapse-prone vacant buildings when there is little or no chance for survival. This variable should be factored into the size-up of the life hazard at vacant buildings and applied to members’ risk-reward calculation.
When a vacant building is heavily involved on arrival, hose streams should be placed between the involved building and the most severe **life** exposure. For example, if a fully-involved vacant building fire is extending to both an unoccupied commercial building and also an occupied dwelling, then the first stream should be positioned to protect the people in the occupied dwelling, even if the commercial building is more exposed. This decision is based on the reasoning that, although the commercial building is more exposed, the occupied dwelling is the most severe life exposure and therefore must be protected first.

When life is not endangered in any exposure, the first stream should be positioned to protect the greatest amount of **property**. For example, if a vacant building fire is exposing another vacant structure and communicating at the same time, but less severely, to an unoccupied commercial building, the priority should be positioning the stream to protect the unoccupied commercial building.

When possible, units should take a position that not only protects exposures, but also enables the stream to be used on the main body of fire. In cases when it is impossible to confine the fire in this manner, the stream should be alternated from the fire to the exposure.

### 5.3 SEARCH OPERATIONS

The process of searching vacant buildings must differ substantially from search operations at occupied buildings, as vacant buildings pose a much greater threat to members’ safety. Consequently, firefighters searching vacant buildings must reduce the speed and aggressiveness of their search to compensate for the increased level of risk. While all vacant buildings must be searched for life hazards within the limits of safety, primary searches should generally be conducted **after all visible fire has been knocked down and the IC has completed a size-up and risk assessment**. Members may vary from this guideline when confronted with a known life hazard.

When structural stability or other safety considerations prevent primary or secondary searches from being conducted, the IC shall:

- Make the following notifications as necessary: Borough Commander/Command Chief, FDOC, BFI, DOB, NYCEM, HPD, DOT, Utilities, NYPD.
- Request additional resources as deemed necessary (e.g., Safety Battalion, Rescue Battalion, Planning Chief, Planning Vehicle, Communications Unit, HazMat Units, SOC Support Units, additional units, etc.)
5.4  FLOOR-ABOVE OPERATIONS

Operating on the floors above an uncontrolled fire in a vacant building presents greater risks than floor-above operations in occupied buildings. This is because of the multitude of dangers associated with vacant buildings, including the potential for floor openings, rapid fire extension to the floors above the fire, and early collapse. This increased risk level is not warranted for searches above a fire when considering the diminished probability of a life hazard. Therefore, when operating at a vacant building fire, members shall not conduct searches on the floors above the fire until all visible fire has been knocked down and the IC has conducted a size-up and risk assessment. Members may vary from this guideline when confronted with a known life hazard.

5.5  ROOF OPERATIONS

Roof operations at vacant building fires present greater risks than roof operations at occupied buildings. This is because of vacant buildings’ questionable roof-support systems, the potential for rapidly expanding fires, and the falling hazards caused by pre-existing holes, roof openings, deteriorated parapet walls, etc. Members should operate with due regard for safety.

6.  TACTICS FOR VACANT BUILDING FIRES

Firefighting Procedures - Vacant Building Fires does not change existing tactics set forth in other Firefighting Procedures (e.g., Rowframes, Taxpayers, etc.); rather, it should serve to enhance members’ size-up and modify the Department’s risk-assessment model for all buildings. When appropriate, standard tactics may be used at vacant buildings based on a size-up and risk assessment. When modifications are necessary because of excessive risks, however, members may need to use tactics that are more risk-averse. The following tactics and techniques may be used by Engine and Ladder Companies to adapt to the special hazards and challenges present at vacant building fires:

6.1  ENGINE COMPANY TACTICS

Initial tactics at vacant building fires usually emphasize Engine Company operations because of an adapted slower, more cautious operation and a decreased emphasis on ventilation, entry, isolation, and search. Engine Companies should apply the following general tactics, techniques and options:

A. Members should stretch hose lines consistent with Department policies for each building type (e.g., stretch a 1 ¾" hose line for a fire in a vacant rowframe building).

B. Engine Companies shall be alert to the need for a 3 ½" hose line to supply a Tower Ladder when consistent with operational needs. Whenever possible, a separate Engine shall be dedicated to the sole task of supplying water to a Tower Ladder in order to ensure proper water delivery.
C. Because vacant building fires are more likely to extend to the floors above and to exposures, there may be a need to quickly apply water to the fire area. This does not necessarily require an interior attack; a defensive exterior attack with a hoseline may be the best tactical approach. This tactic may limit extension and quickly control a rapidly expanding fire while minimizing risk to members. When using an exterior hose line from a purely defensive position (i.e., when a unit does not expect to advance a hose line within the structure), members should stretch a 2 ½” hoseline.

D. Engine Companies may consider using defensive tactics by operating a large caliber stream from a deck pipe. This tactic may be appropriate at vacant buildings for large or advanced fires, or when companies are having difficulty gaining access to fires. Using this tactic provides the following operational advantages:

- It may allow an Engine to attain a positive water source when a hydrant is located in close proximity to the fire building.
- It may allow an Engine to position for a two-pronged attack that includes both exterior hose lines and a defensive master stream.
- It may allow an Engine to extinguish heavy fire during the initial stages of an operation, while also permitting maneuverable hose lines to attack the fire from better tactical locations.
- It provides an option for a defensive position that minimizes risk to members’ safety.

Note: Exterior master streams can add a massive amount of water weight to a structure in a short period of time, which increases the potential for collapse. Members shall be cognizant of any established collapse zone and allow time for water to run off when using this approach.

E. Engine Companies may be ordered to stretch 2 ½” hose lines to exposures in order to operate exterior hose streams. Hoselines used from this defensive position shall be 2 ½” because of the need for increased reach and water flow. Such hose lines should be operated from the most appropriate tactical positions depending on access, such as windows or roofs. This position may be reached via the interior staircase of an exposed building or by using a fire escape or rope stretch. Members should make this decision on a case-by-case basis, depending on fireground conditions and building layouts.

F. To the extent that an IC’s size-up and risk assessment allow for an interior “wash down,” hose lines may be advanced within the fire building after a fire has been largely extinguished from the exterior and exterior streams have been shut down. Before committing members, however, the interior of the building shall be surveyed by a Chief Officer in order to assess its structural stability. If the Safety Battalion (or designated Safety Officer) is on scene, the IC may wish to assign this chief to conduct the interior survey. The IC may also assign an officer from a Rescue or Squad Company to assist with this assessment. The assessment should pay particular attention to any visible deflection or damage to structural members and water build-up that may have created excessive floor loads. It must be stressed that an interior “wash down” is not mandatory; these tactics may be too dangerous depending on the IC’s risk assessment. When an interior wash down cannot be completed, a watch line may be required.
• Once an interior risk assessment has been completed, 1 ¾" hose lines may be advanced within the fire building to complete final extinguishment. During “wash down” operations, the ½” outer-stream tip may be appropriate in order to reduce the amount of water weight (live load) added within the structure.

• Members should be reminded that the purpose of an interior “wash down” is to ensure that all fire is completely extinguished to protect exposures from the effects of a rekindled fire. If exposures are not a concern, it may be more appropriate to ensure members’ safety by maintaining a defensive posture and ordering a watch line.

  **Note:** When using any of the tactics mentioned above, Engine Companies should consider the collapse zone surrounding the fire building, and ensure that the Engine’s position does not jeopardize members’ safety in the event of a building collapse. This may call for apparatus that was originally placed in a safe position to be repositioned based on changing conditions as the fire evolves.

### 6.2 LADDER COMPANY TACTICS

Ladder Company operations are generally devoted to facilitating Engine Companies’ efforts in getting water on the fire. This may be limited to forcible entry and ventilation tactics in order to gain access to the fire area for hose streams or exterior operations.

A. If interior operations are absolutely necessary (based on the IC’s risk assessment) members shall operate using extreme caution, while making adjustments as outlined within this bulletin (i.e., search operations, floor-above operations, roof operations, etc.).

B. Ladder Company members should be aware of the emphasis on exterior operations and be prepared to position their apparatus to operate elevated master streams. The main objective when placing exterior streams is to balance optimal building coverage with the necessity for members’ safety. Avoiding the collapse zone may require members to place the apparatus in a corner-safe flanking position and account for the specific collapse characteristics of the building or wall (e.g., a free-standing masonry wall may suffer a ninety-degree collapse that is equal to the height of the wall; bricks and lintels may bounce and roll further). Collapse zones must be conservative, ensuring that members, apparatus and equipment are not affected by collapsing building debris.

C. Members should form a habit of climbing stairs by placing the middle of their foot above the step riser and stepping as close to a supporting wall as possible. Placing downward pressure on risers and climbing close to supporting stringers is the safest way to climb stairs because these areas are the most structurally stable areas of the staircase. Such tactics will increase members’ safety by reducing the chances of step or landing failure.

• When the stability of a stairway is in doubt, members should place an extension ladder over the stairway, ensuring that it is properly supported at both the top and bottom of the stairs. It is imperative that the header beams at the top of the staircase support the ladder. If the ladder is not supported at its tip, it will fall with a collapsing stairway causing severe injuries to members. The bottom of the ladder must also be secure on the floor below so that the base of the ladder does not slip out when members’ weight is applied.
• Another method, often used for climbing “U”-return stairs with cracked or broken marble landings, is to hug the newel post while stepping around the marble landing to the stair riser on the floor above. When using this tactic, members should step up from the riser on the lower staircase to the riser on the upper staircase without placing any weight on the landing itself.

D. Members encountering piles of furniture or building debris on the first floor should determine whether such materials have been dropped from an upper floor through a shaft or floor opening. Also, members should be alert to piles of combustible materials that may have been coated with an accelerant by an arsonist.

E. Generally there is no need to VEIS from fire escapes, portable ladders or aerial ladders, since we are not aggressively searching for trapped occupants.

F. To the extent possible, the use of fire escapes should be avoided. When it is absolutely necessary to use fire escapes at vacant buildings, members should consider the following guidelines:

• Use a Fire Department ladder to access the balcony in preference to drop ladders.

• If it is absolutely necessary to use a drop ladder, either for a civilian life hazard or for fire operations, members lowering the drop ladder should stand beneath the fire escape balcony in order to reduce the risk of being injured if the drop ladder falls free from its supporting guides.

• When operating on a fire escape, members should pay particular attention to areas of the metal structure that appear rusted or loose, and climb ladders with their feet as close to supporting stringers as possible to minimize step deflection.

• Members should avoid gooseneck ladders associated with vacant buildings whenever possible.

G. When an IC’s risk assessment mandates an interior operation at a large-area vacant building (e.g., factory or warehouse), members shall deploy the search rope in accordance with Department policies in order to increase members’ safety.

7. SAFETY

7.1 Members’ safety is the highest priority while conducting fire operations at vacant buildings. While it is nearly impossible to list all of the potential safety hazards involving vacant buildings, the following general actions may be taken to mitigate some of the inherent risks:

• Members should be reminded that a slower, more cautious risk assessment shall be performed when sizing-up vacant buildings.

• When operating at vacant building fires, members should establish a collapse zone during the early stages of fire operations and the IC shall ensure that the ICP is outside of the collapse zone. Members must also understand the collapse characteristics of the various types of buildings and building features, especially walls, to determine the appropriate collapse zone distances. For example, wood-frame buildings often experience inward-outward or ninety-degree wall collapse, especially corner buildings and isolated (stand-alone) frame buildings. Members must establish a collapse zone with these characteristics in mind.
A **defensive exterior attack** is the cornerstone of a safe operation at vacant building fires. This strategy is the most effective way of ensuring members’ safety.

- Members should use available lighting equipment to **illuminate** the fireground surrounding the fire building. In addition, members should utilize spotlights to illuminate specific hazards on the interior or exterior of the fire building. This tactic calls attention to specific structural problems, unstable objects, falling hazards, etc.

- ICs should consider using a Battalion Chief designated as the **Safety Officer** to increase supervision at vacant building fires. While a Safety Officer and/or the Safety Battalion will often be present at multiple alarm fires, ICs should consider special calling a Safety Officer to any vacant building fire where the level of risk calls for increased supervision.

8. **CONCLUSION**

8.1 The fire service is charged with the duty of protecting life and property at fires and emergencies. While many civilian lives are saved in occupied buildings by the FDNY’s policy of an aggressive interior attack, members operating at vacant buildings must alter their tolerance for risk because of the diminished life hazard at such buildings. Members’ lives shall not be risked needlessly. The strategy for operating safely at vacant building fires emphasizes a **defensive exterior attack**.