

	<h1>COMMERCE FIRE DEPARTMENT</h1>
	<h2>Standard Operating Guidelines</h2>
	Subject: Definitions & Terminology
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Approved By: Chief Kevin Dean	

Purpose: The following terms are commonly used or may be used by the Commerce Fire Department in both written and oral communications:

DEFINITIONS & TERMINOLOGY:

A-side: Front of the fire building, usually front door facing street, but may be facing parking area where first apparatus arrives; other sides labeled B (left), C (rear), D (right), as necessary when speaking of or staffing structure fire **Sectors**.

Above-ground storage tank: Storage tank that is not buried. Compare *Underground storage tank*. Unburied tanks are more prone to physical damage, and leaks are released to the air or ground, rather than the soil surrounding a buried tank.

Accelerant: flammable fuel (often liquid) used by some arsonists to increase size or intensity of fire. May also be accidentally introduced when *HAZMAT* becomes involved in fire.

Accountability: The process of emergency responders (fire, police, SAR, emergency medical, etc...) checking into and making themselves announced as being on-scene during an incident to an incident commander or accountability officer. Through the accountability system, each person is tracked throughout the incident until released from the scene by the incident commander or accountability officer. This is becoming a standard in the emergency services arena primarily for the safety of emergency personnel. This system may implement a name tag system or personal locator device (tracking device used by each individual that is linked to a computer).

Administrative order: An order issued by the Fire Chief establishing a principle, policy, or procedure concerning a given subject.

Admission: A verbal acknowledgment of guilt.

Aerial Ladder: A rotating, power-operated (usually hydraulically) ladder mounted on a self-propelled automotive fire apparatus.

Aerial operation: means master streams flowing from elevated locations, generally the tips of aerial ladders or platforms during defensive operations.

Aid station: A designated location at an incident where EMS personnel treat the sick and injured. The person in charge of an aid station will normally be a paramedic and will coordinate activities with the command post. The aid station may also be divided into sectors such as Triage, Treatment, and Transportation.

Aircraft rescue and firefighting (ARFF): a special category of firefighting that involves the response, hazard mitigation, evacuation and possible rescue of passengers and crew of an aircraft involved in an airport ground emergency.

Alarm: An incident or event that requires a response by one or more fire companies. There are several types of alarms:

(a) Automatic alarm: A request for emergency service from an alarm company or security office, on activation of a smoke or heat detector or of a fixed extinguishing system. The flow of water within a fixed system, the closure or opening of a valve, or the activation of a fire pump may also result in the transmission of an alarm signal.

(b) General alarms: An incident that requires the response of all of the department's personnel and apparatus.

(c) Multiple alarms: A request for additional assistance at an incident to which a normal response assignment has been previously dispatched. Multiple alarms are designated as greater alarms.

All clear: A phrase used on completion of the primary search of a fire building indicating to all personnel that the search has been completed and that no victims were found.

Alligatoring: Char patterns formed on burned wood.

Alpha, Bravo, Charlie, Delta (A,B,C,D): these terms are used to designate the sides of a structure.

Generally speaking, the "alpha" side is the front of the structure, the "bravo" side is the left side of the structure, "charlie" is the back of the structure and "delta" is the right side of the structure.

Apparatus: A term usually used by firefighters describing a piece of mobile firefighting equipment, such as a pumper, a tanker, a ladder truck, etc.

Appliance: Term applied to any wye, siamese, deluge monitor, reducer, adaptor, fitting or other piece of hardware used in conjunction with fire hose for the purpose of delivering water.

Aqueous Film-Forming Foam (AFFF): (pronounced "A-Triple-F", also called "Class B"): bubbles that act as surfactant to coat and penetrate ordinary fuels (e.g., wood, paper) to prevent them from burning at normal temperatures; also used on "Class B" (oil/gasoline) fires to spread a non-volatile film over the surface of the fuel. Applied using *eductor* or *Compressed air foam system* (CAFS) and pumped through fire hose to a *foam nozzle* (or sometimes a less-effective *fog nozzle*).

Arson: the crime of maliciously (or perhaps recklessly) setting fire to property, especially a dwelling. Punishable in various degrees, depending upon the circumstances.

Assignment: A predetermined designation of the units to respond to a given type of incident; the entire complement of apparatus assigned to any given incident; the assignment of any given unit.

Assuming command: means that the first arriving unit has assumed responsibility for the incident and will be directing the activities of all other units until relieved by a Chief Officer. It will also be announced when a later arriving Chief Officer takes over for the first arriving officer and assumes Command responsibilities.

Attack hose: (Attack Line) A use classification of a fire fighting hose connected to output of a pump or other pressure source (e.g., gravity). Fire hose used to apply water or other firefighting agent directly to a fire or burning substance. Typically of 2 1/2 inches (64 mm) diameter or less in the United States. Historically 1.5 inch hose was the primary initial attack line but has been supplanted in most of the US by 1.75-inch-diameter (44 mm) hose that carries 175 gallons per minute. Two-inch hose is available as an option.

Attic ladder: Narrow, collapsible ladder used to access an attic space via a scuttle hole, which are often found in closets and other narrow passages. Also known as a closet ladder, folding ladder or "pencil ladder." Required to be carried on pumpers by NFPA 1901.

Authority Having Jurisdiction (or AHJ): organization or agency with legal authority over a given type of incident (e.g, fire, EMS, SAR, arson, HAZMAT); may change or overlap as incident changes, as where fire becomes arson investigation once danger is over, or Motor Vehicle Accident becomes police business after vehicle extrication, fire, and HAZMAT issues are complete.

Automatic aid: A programmed plan that responds the closest available company to an incident even though the closest company may be from a different political jurisdiction.

Automatic sprinkler: System of pipes serving fire sprinklers, for automatically directing water to a fire when the sprinkler is heated to its actuation temperature (usually 155 deg F). The piping may be normally pressurized with water ("wet") or with air ("dry"), depending upon the application. When a sprinkler-head (or heat sensor) detects heat from a fire, the sprinkler opens, automatically spraying water onto the fire area.

Available flow: total amount of water that can be put on a fire, depending upon water supply, pump size, hoses, and distance to the fire. Incident Commander must assess available flow to determine whether additional apparatus or streams are required. See *Fire flow requirement*.

Backdraft: A fire phenomenon caused when heat and heavy smoke (unburned fuel particles) accumulate inside a compartment, depleting the available air, and then oxygen/air is re-introduced, completing the *fire triangle* and causing rapid combustion.

Backfiring: Also known as a "controlled burn," it's a tactic mostly used in wildland firefighting associated with indirect attack, by intentionally setting fire to fuels inside the control line. Most often used to contain a rapidly spreading fire, placing control lines at places where the fire can be fought on the firefighter's terms.

Backflow preventer: Automatic valve used in hose accessories to ensure water flows only in one direction. Used in permanent fire department connections (FDC) to sprinklers and dry standpipes, as well as portable devices used in firefighting.

Back Pressure: Also known as "Head Pressure". Pressure generated by the weight of a column of water above the pump. This is figured at .434 psi per foot of elevation.

Bail Out: Rapid exit from a window or door from a hostile environment.

Bank Down: What the smoke does as it fills a room, banks down to the floor, creating several layers of heat and smoke at different temperatures – the coolest being at the bottom.

BLEVE: Boiling Liquid Expanding Vapor Explosion. Explosion of a pressure tank containing an overheated material when the vapor expansion rate exceeds the pressure relief capacity (e.g., steam boiler or propane tank). If the contents are flammable, the rapidly released vapor may react in a secondary fuel-air explosion.

Boiling liquid expanding vapor explosion (BLEVE): Explosion of a pressure tank containing an overheated material when the vapor expansion rate exceeds the pressure relief capacity (e.g., steam boiler or LPG tank). If the contents are flammable, the rapidly released vapor may react in a secondary fuel-air explosion, usually violent and spectacular.

Booster hose: Small-diameter fire hose (3/4–1 inch), often carried on *booster reel*, pre-connected to pump of an engine (and the *booster tank*) for putting out small fires near the truck without having to connect to a fire hydrant; easily recovered with a motorized reel. Also known as "red line" for the common red rubberized outer layer.

Branch (NIMS): A supervisory level above division, group, or sector, designed to provide span of control at a high level. A branch is usually applied to the operations or logistics sections and is usually identified by a Roman numeral or functional name.

Bresnan cellar nozzle: Rotating nozzle tip having two or more outlets forming water jets that propel the tip while spraying water in a circular pattern; conveniently attached to several feet (a meter) of rigid pipe with handles or legs for supporting the nozzle while it is suspended through a hole in the floor above.

Burn Patterns: The characteristic configuration of char left by a fire.

CAFS: a CAFS unit is an Engine that has a special foam system called a "Compressed Air Foam System." This system mixes foam, water and air to create an extinguishing agent that is more effective than water and much lighter. The light weight makes it easier for firefighters to move handlines thereby reducing fatigue.

Call: An alarm for a fire or emergency.

Call back:

- (a) The recall of off duty personnel back to duty for an incident or event.
- (b) A telephone number provided by 911 to contact a person who reports a fire.

Can: Slang for a fire extinguisher. (Example: water can = water extinguisher)

Can handle or "We can handle": A message from a unit at the scene of an incident indicating that no further assistance will be required.

Candidate: A new firefighter on employment probation (a period of time during which his or her skills are improved, honed, tested, and evaluated).

Career Firefighter: (U.S.) A person whose primary employment is as a firefighter for a municipality or other agency or company and who derives the majority of his earned income working in the fire service.

Catch a hydrant: An order to a responding engine company to perform a forward lay of a supply line.

Cause of Fire: The reason for ignition of an unfriendly fire, as recorded in the fire service statistics.

Chain of Command: The unbroken line of authority extending from the Chief through a single subordinate at each level of command down to the level of execution.

Char: The remains of burned materials

Charge: To turn on the water and fill a hose with water and pressure.

Charge a hose: To make water pressure available on a hose in final preparation for its use. This is done on the scene after the hose is deployed, but prior to entering the fire danger area. (Also known as "Charge the line")

Charged hose: A hose that is filled with water and pressurized; ready to use. The charged line is much more difficult to move than one not yet charged.

Charged Line: Fire hose line that is full of water.

Chief Officer: An executive officer of the fire department, as contrasted with a tactical *Company officer*. Typical Chief Officers include the Fire chief, Assistant and Deputy Fire Chief, Battalion or Division or District Chiefs (who may each supervise Fire Captains)

Chimney Bombs: Homemade containers (usually zip-lock bags) containing dry chemical extinguish powder. Can be used to extinguish chimney fires.

Chimney fire: Fast and intense fire in a chimney flue in which accumulated creosote and other combustion byproducts ignite. These often extend fire into the roof or attic, especially with defective chimneys or when the mortar becomes hot enough to melt.

Class A: A fire involving combustibles such as wood, paper, and other natural materials.

Class B: A fire involving flammable liquids such as gasoline or other fuels.

Class C: An electrical fire.

Class D: A fire involving metals, such as sodium, titanium, magnesium, potassium, uranium, lithium, plutonium and calcium.

Class K: A fire involving cooking oils. Technically, this is a subclass of Class B.

CO₂ extinguisher: Fire extinguisher that releases carbon dioxide gas to displace oxygen to smother and cool a fire, such as a flammable liquid.

Cockloft: structural space above ceiling and below rafters, often connecting adjacent occupancies and permitting fire to spread laterally, often unseen.

Collapse Zone - Estimated as an area one and a half times the height of the fire building where a wall may fall. Fireground operations should not be conducted within the collapse zone. Corners of the building are the safest place for operations.

Combination nozzle: A low pressure Fog Nozzle that can be adjusted to produce a near Straight Stream.

Combustion: Combustion is a chemical reaction that occurs between a fuel and an oxidizing agent that produces energy, usually in the form of heat and light.

Command: The radio identifier for the officer in charge of an incident. Also known as the incident commander or IC.

Command Post: A designated location at an incident where the primary command functions are executed. The command post will be staffed by the incident commander, support personnel, and representatives from other agencies as required.

Command Staff (NIMS): Positions that assume responsibility for key activities at an incident and are not part of the line organization. The command staff is headed by the incident commander. Additional command staff, including the safety officer, public information officer, and liaison officer, report directly to the incident commander. Other command staff positions may be appointed as needed.

Company: Two or more firefighters organized as a team, led by a fire officer, and equipped to perform certain operational functions. Compare with platoon and unit.

Company officer: A fire officer, typically a lieutenant or captain, who leads a team of two or more firefighters in a tactical company.

Compartment Fire: An "Isolated" fire, or a fire which is "boxed in" or "closed off" from the rest of the structure. An example of this is a fire in a room where all the windows and doors are closed preventing the fire from spreading to other rooms.

Confession: A signed statement acknowledging guilt.

Confined space: Usually refers to a "confined space rescue." This involves a space that may have very limited access, little or no room to maneuver, poor air or light, and very likely other hazards. A trench cave-in, a collapsed building, a sewer or utility vault rescue, or a problem in and around industrial equipment are some examples.

Conflagration: A large, typically urban, fire involving numerous structures; loosely defined as enveloping an area equivalent to one or more square blocks. Compare with firestorm.

Controlled burn: Planned burning, allowed only by permit, conducted to remove fuel, abate a hazard, or clear a building site prior to construction.

Crew (NIMS): An organized group of firefighters under leadership of a company officer, crew leader, or designated official.

Critique: A formal process following an incident and conducted by the personnel who responded so as to analyze their actions, correct deficiencies, and identify those tasks that were performed correctly.

Cross lay: Arrangement of hose on a pumper such that it can be quickly unloaded from either side of the apparatus; often pre-connected to a pump outlet and equipped with a suitable nozzle. Also known as Mattydale Lay.

Deck Gun: A large water nozzle attached to the top of the engine. Deck guns deliver larger amounts of water than hand-held hose.

Deluge gun: A *master stream* device that can be positioned on the ground based on the need of the incident commander.

Defensive: means that conditions are too dangerous to allow firefighters to operate inside of the structure.

Defensive Attack: A primarily exterior form of attack often used when fighting the fire directly or from within a structure is not feasible due to dangers from direct flame, heat, structural collapse or the presence of hazardous materials. Often structures which are fully involved are attacked defensively with the main goal being the protection of nearby exposures. This form of attack is far less effective than an Offensive or Direct attack. Also known as "surround and drown."

Defensive Operations: This is a fire ground strategy based on firefighter safety and the protection of exposures. The goal is to simply confine the fire to the building/area of origin. No aggressive interior firefighting operations take place in the defensive mode, usually due to safety concerns for entering the building.

Deflagration: An explosion with a propagation front traveling at subsonic speeds, as compared to supersonic detonation.

Denver Drill: A drill that essentially re-creates the rescue of Denver firefighter Mark Langvardt. It incorporates the use of a leveraged body and an inclined plane (bio-mechanics) to get a victim up and out of a narrow window in a narrow hallway (the Denver Prop).

Denver Prop: A training prop designed after the actual dimensions of the confined area that claimed 16 year veteran fire fighter Mark Langvardt's life in 1992. Specifically, it is a 'hallway' 28" wide, 8' long with a window at one end that is 20" wide by 28" high and the sill is 42" from the floor. The prop is used for the Denver Drill.

Denver tool: (*also called TNT tool*): A combination axe, sledgehammer, pry tool, ram, and D-handle pull tool used to gain forcible entry to buildings, automobiles, etc. during emergency situations.

Detail: The assignment of one or more personnel to temporary duty with another company or work group.

Detection: The act or system of discovering or locating fires.

Devise: Any means used to start a fire.

Direct attack: "Putting the wet stuff on the red stuff." A form of fire attack in which hoses are advanced to the fire inside a structure and hose streams directed at the burning materials.

Discharge: The quantity of water issuing from an opening expressed in gallons per minute (gpm).

Discharge flow: The amount of water flowing from a fire hydrant when it is opened; compare to static flow and residual flow.

Dispatch: Refers to person or place designated for handling a call for help by alerting the specific resources necessary.

Disregard: An order to one or more responding units that their services are not needed and that they should return to service.

District: A designated geographic area of service delivery normally covered by a single fire station. It may also refer to the entire area covered by a single fire department regardless of the number of stations.

Division (NIMS): A supervisory level that divides the incident into geographic areas of operational responsibility. Divisions are established when the number of available resources exceeds the span of control of the section or branch chief.

Double female: Fire hose adapter for connecting two "male" couplings together; may also adapt different sizes on either side.

Double male: Hose coupling adapter with two male-threaded connectors back-to-back; used for connecting two female couplings together.

Drafting: The process of raising water from a static source to supply an engine.

Drill: Training during which an emergency is simulated and the trainees go through the steps of responding as if it were real, or practicing particular skills to enhance a member's ability to perform the skill during an emergency.

Drill tower: A multistory training structure.

Drop Tank: A portable tank used at fire scenes to store water from Tenders for Engines.

Dry chemical: A fire extinguishing agent. It works by breaking the chemical chain reaction in the "fire tetrahedron".

Dry hydrant: A fire hydrant with a valve located at the bottom of the barrel, near the water main. The barrel of the hydrant remains dry until used. This prevents the hydrant from freezing in sub-zero temperatures. A dry hydrant is also an unpressurized pipe that can be used to draft (or draw) water from a pond or lake.

Duty: A task that a subordinate is obligated to perform when assigned to do so by a superior.

Eductor: Venturi device through which water flows under 200 psi pressure to create a partial vacuum in a tube attached at 90-degrees and open to the water stream passing overhead. The vacuum draws liquid foam concentrate from a reservoir, which mixes with the water stream through a metering device on the discharge side of the eductor where a firefighting hose is connected. Typically the 200 psi inlet water pressure is reduced to 95 psi discharge pressure as a result of the narrowness of the venturi in the eductor device.

EMS: Emergency medical service(s).

EMT: Emergency medical technician(s).

ETOH: the chemical abbreviation for ethanol, or ethyl alcohol, also used to describe someone believed to be intoxicated.

Elapsed time: The time used to complete any assignment.

Electrical fire: A fire in which the primary source of heat is electricity, resulting in combustion of adjacent insulation and other materials; may be hazardous to attempt to extinguish using water.

Elevation Pressure: Pressure that is gained or lost due to elevation (.434 psi rounded up to .5 psi per foot).

Engine: A fire suppression vehicle that has a water pump and, typically, is designed to carry fire hose and a limited supply of water.

Engine Company: A group of firefighters assigned to an apparatus with a water pump and equipped with fire hose and other tools related to fire extinguishment.

Engine pressure: The pressure in a fire hose measured at the outlet of the pump.

Engineer: A firefighter responsible for driving the engine to the scene of the call and operation of the pumps on an engine, to provide sufficient water to the firefighters on the hose.

Enhanced 9-1-1: Electronic system for automatic correlation of physical telephone lines with information about the location of the caller—a useful tool for dispatchers when the caller has an emergency but cannot speak.

En route: Indicates that an apparatus or other unit is responding to an incident.

Emergency: A radio term used to clear the radio of all radio traffic. The term emergency should be followed by a specific message or set of instructions.

Emergency traffic: The act of clearing a radio channel of all nonessential communications.

Evacuation: Removal of personnel from a dangerous area, in particular, a HAZMAT incident, burning building, or other emergency. Also refers to act of removing firefighters from a structure in danger of collapsing.

Evolution: Uniform sequence of practiced steps by squad carrying out common tasks such as selection and placement of ladders, stowing hoses in *hose bed*, putting hoses and tools into service in particular patterns; intended to result in predictability during emergencies.

Exposure: A building, vehicle or other property that is endangered by fire in an adjacent building, a vehicle, or property.

Exothermic reaction: Chemical reaction giving off heat in the process, such as combustion.

Explorer: a young adult, between 14 and 21, who learns the basics of firefighting.

Exposure: Property near fire that may become involved by transfer of heat or burning material from main fire, typically by convection or radiation. May range from 40 feet (12 m) to several miles, depending on size and type of fire or explosion.

Extension: means the fire has extended into concealed spaces within the building. "Checking for extension" means that firefighters are opening up concealed spaces to see if the fire has extended to other parts of the building.

Extension ladder: A 20–60-foot ladder with one or more movable sections that extend beyond a base section, typically using a halyard rope and pulley mechanism for lifting and locking cams to latch the moving sections at a selected height.

Exterior attack: A method of extinguishing a fire which does not involve entering the structure. Often used when so much of the building is involved in fire that there is little or no benefit to risking firefighter safety by inserting them into the structure. May be a temporary measure when there are not sufficient personnel on scene to form an entry team and a rescue team (to rescue the entry team). Also known as **Surround and drown**.

Extinguisher: Device containing fire suppressant, often pressurized to expel suppressant when triggered by operator or an automatic release mechanism. Important to properly select type of extinguisher appropriate to type of material burning (wood, grease, electrical, etc.). May be portable or permanently installed for special suppression purposes, such as fires in recreational vehicles, boats, aircraft engines, restaurant exhaust hoods, or computer rooms.

Extrication: removal of a trapped victim such as a vehicle extrication, confined space rescue, or trench rescue; sometimes using hydraulic spreader, Jaws of Life, or other technical equipment.

Extra Alarm - A request by an incident commander for additional personnel and apparatus.

False alarm: An alarm for which no fire or emergency existed or for which fire department response was unnecessary.

FDC: (Fire Department Connection): Location in which pumping apparatus hooks to a buildings standpipe and or sprinkler system. Usually a 2 1/2" female connection.

FFFP: Fluoroprotein film forming foam.

Fill in: The dispatch of another apparatus or medic unit to replace companies not available to answer their regular assignments.

Fire alarm control panel: System for receiving and announcing location of fire based upon input from smoke, flame or heat detectors, or manual call points or pull stations.

Fire axe: There are two main types of axes used in firefighting, a flathead axe, which has a single wedge for cutting into objects, and a pickhead axe, which has a cutting wedge on one side and a pointed pick on the other.

Fire Boat: A specialized watercraft and with pumps and nozzles designed for fighting shoreline and shipboard fires.

Fire Break: Especially in hilly or mountainous areas, roads or paths cut through brush with a tractor, bulldozer or other construction equipment. The purpose of these is to have an area with no brush, and thus, no fuel, so that a fire will hopefully burn out rather than jumping to another area with brush. Also to ensure vehicular access to brush areas.

Fire code (Fire safety code): regulations for fire prevention and safety involving flammables, explosives and other dangerous operations and occupancies.

Fire danger: A term indicating the risk of a wildland fire due to such weather conditions as prolonged drought, high winds, low humidity etc.

Fire escape: A building structure arranged outside to assist in safe evacuation of occupants during an emergency; may connect horizontally beyond a *fire wall* or vertically to a roof or (preferably) to the ground, perhaps with a counter-weighted span to deny access to intruders.

Fire flow: The amount of water being pumped onto a fire, or required to extinguish a hypothetical fire. A critical calculation in light of the axiom that an ordinary fire will not be extinguished unless there is sufficient water to remove the heat of the fire.

Firefighter: People who respond to fire alarms and other emergencies for fire suppression, rescue, and related duties.

Fireground: The operational area at the scene of a fire; area in which *incident commander* is in control. Also used as name of radio frequency to be used by units operating in the fireground, as in "Responding units switch to *fireground*."

Firehouse: Another term for Fire station.

Fire hazard: Materials, structures or processes that may result in creating a fire, permitting a fire to grow undetected, or preventing people from escaping a fire.

Fire hydraulics: The study of pumps, hoses, pipes, accessories and tools for moving water or other extinguishing agents from a water supply to a fire.

Fire inspector: A person responsible for issuing permits and enforcing the *fire code*, including any necessary premises inspection, as before allowing (or during) a large indoor gathering.

Fire line: A boundary of a fire scene established for public safety and to identify the area in which firefighters may be working.

Fire Load: The contents of the structure or residence during ordinary combustion of all the fuel in a given space.

Fire Marshal: Administrative and investigative office for fire prevention and arson investigation.

Fire point: temperature at which materials give off flammable gases that will sustain fire, typically higher than *flash point*. Temperature at *flashover*.

Fire prevention: Fire safety; standards for minimizing fire hazards. In some departments also the name of the division tasked with promoting fire safety and fire code compliance in the community.

Fire Prevention Week: An annual observation of fire safety education in the United States and Canada, often involving lectures or demonstrations by firefighters, sponsored by the National Fire Protection Association, since 1925.

Fire-resistant: Materials designed or treated to have an increased fire point.

Fire station: A structure which, in addition to housing apparatus and equipment, often includes living quarters and training facilities for the use of firefighting personnel when on-duty.

Firestorm: A conflagration of great enough proportions to noticeably create its own wind conditions.

Fire tetrahedron: The fire tetrahedron is based on the components of igniting or extinguishing a fire. Each component represents a property necessary to sustain fire: fuel, oxygen, heat, and chemical chain reaction. Extinguishment is based upon removing or hindering any one of these properties.

Fire triangle: An outdated model for understanding the major components necessary for fire: heat, fuel and oxygen. See also *fire tetrahedron* for the currently used model in firefighting.

Fire wall: Building structure designed to delay horizontal spread of a fire from one area of a building to another; often regulated by *fire code* and required to have self-closing doors, and fireproof construction.

Fire watch: Fixed or mobile patrols that watch for signs of fire or fire hazards so that any necessary alarm can be quickly raised or preventive steps taken. Commonly established at commercial or multi-occupancy structures if the fire alarm system is out of service for repairs, or a crew assigned to the scene after a large fire to stand watch for an extended period of time in the event of a rekindle.

Fire Escape: A building structure arranged outside to assist in safe evacuation of occupants during an emergency; may connect horizontally beyond a fire wall or vertically to a roof or (preferably) to the ground, perhaps with a counter-weighted span to deny access to intruders.

First due: Refers to either the first apparatus arriving on the scene of a fire or the area in which a company is expected to be the first to arrive on a fire scene.

First in: The first company or unit to arrive at an incident.

Fit test: Periodic test of how well the facepiece of an SCBA fits a particular firefighter.

Flameover: Also known as *rollover*. The ignition of heated fire gasses at the ceiling level only. While dangerous to firefighters, this is not as deadly as Flashover.

Flammable range, limits: The percentage mixture of fumes with air that will sustain fire; outside the limits the mixture is either too lean or too rich to burn.

Flash point: Lowest temperature at which a material will emit vapor combustible in air mixture. Higher than *Flame point* of same material.

Flashover: simultaneous ignition of combustible materials in a closed space, as when materials simultaneously reach their *fire point*; may also result in *rollover*.

Foam: Extinguishing agent formed by mixing *Foam concentrate* with water and aerating the solution for expansion. Used for smothering large *Class A or B fires*. May be injected into fire streams at adjustable concentrations.

Foam Concentrate: Raw foam liquid as it rests in its storage container before the introduction of water and air.

Fog nozzle: A nozzle that discharges water in small droplets. Often, the nozzles are adjustable, permitting the pattern to range from a straight stream to a narrow fog to a wide fog stream. Can also be designed to automatically adjust pressure depending upon selected pattern.

Fog Stream: A fire stream characterized by small droplets of water. The droplets are unable to travel very far, but absorb heat very quickly because of the high surface area they present.

Forcible entry: gaining entry to an area using force to disable or bypass security devices, typically using force tools, sometimes using tools specialized for entry (e.g., Halligan, K-tool).

Forest Service:

- (a) An agency with fire control responsibility for wildland fire suppression.
- (b) U.S. Forest Service. An agency with fire control responsibility for wildland fire suppression in national parks, national forests, and other land owned by the federal government.

Forward lay: Procedure of stringing water supply hose from a water source toward a fire scene; compare with *Reverse lay*.

Freelancing: dangerous situation at an incident where an individual carries out tasks alone or without being assigned; violation of personnel accountability procedures.

Friction loss: Reduction of flow in a *firehose* caused by friction between the water and the lining of the hose. Depends primarily upon diameter, type and length of hose, and amount of water (GPM) flowing through.

Frontage: The size of a building facing a street.

Front line: Apparatus and medic units normally staffed at all times.

Fully involved: A size-up report that indicates that the entire area of a building is so involved with heat, smoke, and flame that immediate access to the interior isn't possible until some measure of control has been achieved with hose streams.

General Order - A written order, issued by the Fire Chief, applicable to the Department as a whole or to a division thereof. It is effective permanently from the date issued and is in force until revoked by a subsequent General order.

General Staff (NIMS): Senior line positions that supervise the various functions such as operations, planning, logistics, and finance sections. The chief of each section reports directly to the incident commander.

GPM: Gallons Per Minute or how many gallons are being pumped out of a piece of equipment every minute

Grease fire: A fire involving any manner of cooking oil or other flammable cooking or lubricating materials. Also known as a Class B, F or K fire.

Ground ladder: A portable ladder designed to rest on the ground.

Group (NIMS): Organization level that divides the incident according to functional levels of operation. Groups perform special functions, often across geographic boundaries such as search and rescue, water supply, ventilation, and interior attack.

Halligan tool: (or "Hooligan") Prying tool with a claw at one end and a spike or point at a right angle to a wedge at the other end. It is used in combination with maul or flat-headed axe for forcing padlocks, doors and windows.

Halon: chemical gas fire extinguishing or liquid agent for diminishing the combustion reaction rate by acting as a thermal ballast; used mainly in closed computer rooms, aircraft, and other high-value installations where corrosive chemicals or water extinguishers are judged inappropriate. Effective at low concentrations (5%) as compared with CO₂ (34%). Being phased out with suitable replacements in most applications, with very restricted exemptions, due to international environmental concerns with this and other CFCs.

Halyard: Rope used on extension ladders to extend the fly sections. Also called Fly Rope.

Handline: is a firefighting hose that is operated and maneuvered by firefighters (usually a 1 ¾" in diameter).

Hard suction hose: A flexible rubber hose reinforced with a steel core to prevent collapse from atmospheric pressure when drafting; connected between the intake of a fire pump and a water supply and must be used when drafting. Also called hard hose, hard sleeve, or hard intake/suction hose.

Hazard: a source of danger of personal injury or property damage; fire hazard refers to conditions that may result in fire or explosion, or may increase spread of an accidental fire, or prevent escape from fire. Under worker safety and health regulations, employers have a general duty to provide a workplace free of hazards. See also fire prevention, and HAZMAT.

Hazmat: Hazardous materials, including solids, liquids, or gasses that may cause injury, death, or damage if released or triggered.

Head pressure: How the pressure of a water stream is measured. By measuring the 'breakover' point, the point where the water stream breaks apart and begins to fall back to the ground, of a stream of water aimed vertically into the air. This is typically done with a 1-inch-diameter (25 mm) hose and a fixed nozzle. Therefore, if a water stream breaks over at 50 ft (15 m), then it is said the pump has 50 feet (15 m) of head pressure. Current measurements of pumping capacity are now in GPM, Gallons Per Minute.

Higbee Cut: Special cut at the beginning of the thread on a hose coupling that provides positive identification of the first thread to eliminate cross threading.

Higbee Indicators: Notches or groves cut into coupling lugs to identify by touch or sight the exact location of the Higbee Cut.¹

High-rise building: Any building taller than three or four stories, depending upon local usage, requiring firefighters to climb stairs or aerial ladders for access to upper floors.

High-rise Pack: A shoulder load of hose with a nozzle and other tools necessary to connect the hose to a standpipe.

Hose bed: part of fire engine (or hose wagon) where hose is stored for transport and easy access; stocked in layers or rows for quick selection of the desired length, diameter and type of hose; may include hoses "pre-connected" to pump outlets on the engine.

Hose bridge: mechanical ramps permitting vehicle tires to roll over top of hose without pinching or damaging the hose. Sudden hose-pinch can cause dangerous backpressures in a running hose and at the pump and release of the pinch can cause a staggering surge at the nozzle end.

Hose coupling: rigid interlocking end-pieces on fire hose; used for connecting hose to hydrants or fire engine pumps and other hose appliances (nozzles, wyes, manifolds, strainers, etc.); standardized sizes and threads or other (non-threaded) pressure-sustaining interlocks (e.g., "Storz" or other "quarter-turn" connectors); lugs, cams, or pins are used to tighten and loosen couplings by hand or with a hose wrench.

Hose roller: rigid frame with rollers designed to fit over windowsill or roof parapet to prevent chafing as hose is pulled across it. Can also refer to a machine designed for rolling hoses in preparation for storage.

Hose strap: Strap or chain with a handle suitable for placing over a ladder rung used to carry and secure a hoseline.^[6]

Hot zone: contaminated area of HAZMAT incident that must be isolated; requires suitable protective equipment to enter and decontamination upon exit; minimum hot zone distance from unknown material with unknown release is 330 feet (United Nations Emergency Response Guidebook); surrounded by "warm zone" where decontamination takes place.

Hurst Tool: The copyrighted name of the hydraulic rescue tool, developed by Hurst, used to free people trapped in automobile crashes.

Hydrant Gate: A gate valve used to control water flow through one of the discharge ports on a hydrant with two or more ports. Typically, one fire hose is initially connected to one discharge and the hydrant gate is connected to one or more of the other outlets. This allows a second hose to be connected to a hydrant that is flowing water without shutting down the main valve to make the connection.

Hydrant wrench: Specially designed tool used to open or close a hydrant and to remove hydrant caps.

IAP: Acronym, "Incident Action Plan" A plan consisting of the strategic goals, tactical objectives, and support requirements for the incident. All incidents require an action plan. For simple incidents, the action plan is not usually in written form, while large/complex incidents require the action plan to be documented in writing. When complete, the IAP will have a number of attachments.

IDLH: Any situation deemed Immediately Dangerous to Life and Health. More narrowly defined by [OSHA](#). An area of maximum danger to firefighters. Often requires increased **Personnel accountability**.

IFSTA: Acronym, "International Fire Service Training Association". A major publisher of firefighter training materials.

Incendiary: A fire believed to have been deliberately set.

Incident: A fire, medical call, or other emergency that requires one or more fire companies or medical units to be dispatched to render aid. See also Alarm.

Incident Commander (or IC): The officer in charge of all activities at an incident.

Incident command system: A systematic plan for conducting operations during an incident.

Incident Safety Officer: The officer in charge of scene safety at an incident.

Incipient: a fire of minor consequence or in initial stages.

Indirect attack: Method of firefighting in which water is pumped onto materials above or near the fire so that the splash rains onto the fire, often used where a structure is unsafe to enter.

Initial alarm: The first notification received by the department indicating that a fire or emergency exists.

Initial attack: First point of attack on a fire where hose lines or fuel separation are used to prevent further extension of the fire.

In service:

(a) A report indicating that an apparatus or ambulance is fully functional and available to respond to an assignment.

(b) A radio message indicating that an apparatus or ambulance has completed its previous assignment and is available for the next call.

(c) A radio message indicating that a company or medic unit has left its quarters and will be monitoring the radio for any assignments.

Insubordination: The refusal to obey or comply with a lawful order from a member of a higher rank or position within the Department.

Intake: Part of pump where water enters when pump forms partial vacuum.

In-Line Eductor: Eductor that is placed along the length of a hoseline.

Interface zone (also wildland/structural interface or urban/wildland interface): The zone where wildfires threaten structures or structural fires threaten wildlands, such as in residential areas adjacent to forests. This requires both wildland firefighting and structural firefighting in the same location, which involve very different tactics and equipment.

Interior attack: Inserting a team of firefighters into the burning structure, in an attempt to extinguish a blaze from inside the structure, minimizing property damage from fire, smoke, and water. Requires a minimum of four fully equipped firefighters: an entry team of at least two to enter the structure and fight the fire, and two standing by to rescue or relieve the entry team. If the entry team(s) cannot extinguish the blaze, may become an **Exterior Attack**.

Investigation:

- (a) Sending an individual, company or unit to check for smoke, heat, steam, or other indication of fire.
- (b) The act of determining the cause and origin of a fire.
- (c) The act of determining whether or not a complaint received by the department concerning the actions of one or more of its employees was proper and within the scope of his duty.

Irons: The flathead axe mated with the halligan bar. Firefighters often refer to these as the Crossed Irons, or Married Irons, because the Halligan Bar can fit to the Axe head.

ISO Rating: (Insurance Services Office Public Protection Classification Rating) This is a rating published by the Insurance Services Office. Insurance companies, in many states, use this number to determine homeowner insurance premiums.

Junior firefighter: (US) a young adult between the ages of 14-18 that learns the basics of firefighting from firefighters usually in a volunteer fire company

Knocked down: Term used to indicate that the fire has been extinguished or the fires progress has been slowed.

K-tool: This tool is used to break the lock on a building. The name "K" came from the shape of its jaws.

Kelly tool: A prying tool much like a Halligan tool without the right-angle pointed tip.

Knox Box: A box secured to the outside (esp. of a commercial occupancy) containing master keys, accessible by a high-security key available to responding firefighters.

Ladder Truck: A fire truck that has an extension ladder, carries certain firefighting equipment and can be set up to flow large quantities of water from an elevated position is called a "Ladder Truck."

Ladder company: A group of fire fighters, officers and engineers that staff a ladder truck.

LDH: (Large Diameter Hose) Fire hose with a diameter of 3½ inches or greater. LDH is typically used to supply water from a fire hydrant to fire apparatus such as an engine or tanker.

Level I, II, III Incident - A Hazmat term denoting the severity of the incident and the type of response that may be necessary, where Level III is the largest or most dangerous.

Level 2 Staging – At a typical structure fire, the first arriving Engine and first arriving Ladder will proceed to the scene while all other units will stage in the direction of travel at the nearest intersection. When an incident escalates to a 2nd alarm or greater, the Incident commander will designate a location for arriving units to assemble while awaiting an assignment. Staging at a specified location is called "Level 2 Staging."

Life safety code: NFPA publication. Originally known as the "Building Exits Code."

Life safety line: A rope used where its failure could result in serious injury; a rope used for connecting a firefighter/rescuer to a fixed anchor point or to another person.

Live line: A fire hose under pressure from a pump. Also, an energized electrical line that may cause a hazard to firefighters.

Line or Hose Line: a line of hose, referred to by its size i.e. 1 3/4 inch, 2 1/2 inch, 3 inch, 5 inch.

Location: A specifically designated place to which fire apparatus or medical units are dispatched in answer to an alarm or request for assistance.

Log: A chronological record of events, such as the Dispatch log or Incident log.

Log Book: A day book or record book maintained by a firefighter of all activities, alarms, visitors, etc.

LODD (Line of Duty Death) The death of a fire fighter while on-duty.

Malicious false alarm: A false alarm of fire deliberately sounded to inconvenience the fire department and to cause a disturbance or excitement rather than one sounded by accident or error.

Maltese Cross: The emblem of the fire service is often referred to as a “Maltese Cross”. But the actual origin of the current or common emblem in the U.S. remains uncertain. While it is true that the Knights Hospitalers of Jerusalem (AKA Knights of St. John) did wear a cross emblem and a version of that cross has been used as a fire service icon, it bears little resemblance to the current form in use in much of the United States. It is possible to accept that the current design is just a stylized artistic embellishment of the original form. The current design may have also been influenced by the design of the cross of Saint Florian.

Mass casualty incident (MCI): Any incident that produces a large number of injured persons requiring emergency medical treatment and transportation to a medical facility. The exact number of patients that makes an incident "mass casualty" is defined by departmental procedures and may vary from area to area.

Master stream: A large nozzle, either portable or fixed to a pumper, capable of throwing large amounts of water relatively long distances.

Mattydale Lay (Mattydale Load) : The concept of storing **pre-connected Attack Lines** on an engine, as well as storing them such that they are presented at the sides of the apparatus instead of the rear. Commonly called a **Cross Lay**, the technique allows for rapid deployment of attack lines from either side of the apparatus.

Mayday: is any emergency transmission that means a firefighter is in trouble and is in need of rescue.

MDC: Mobile Data Computer

Means of egress: The way out of a building during an emergency; may be by door, window, hallway, or exterior fire escape; local building codes will often dictate the size, location and type according to the number of occupants and the type of occupancy.

Message: A radio communication consisting of a contact call, response, text, and acknowledgment.

Mobile Command: means that the command is not operating at a fixed location

Move up: The movement of fire companies from their assigned stations to cover vacated stations so as to give coverage to districts stripped of normal protection.

Multigas detector: Measuring device designed to indicate concentrations of multiple (typically four) selected gases, such as oxygen, carbon monoxide, volatile organic compounds, hydrogen cyanide, etc.

Multiple alarms: A request by an incident commander for additional personnel and apparatus. [e.g. "Send me a 2nd Alarm." "Dispatch a 2nd Alarm." "Ring a 2nd Alarm."] Each additional alarm (level) typically includes a predetermined set of additional apparatus and personnel, which will vary by department and sometimes by specific type of incident.

Mutual aid: An agreement between nearby fire companies to assist each other during emergencies by responding with available manpower and apparatus. If these resources can be requested or dispatched without getting specific approval from a chief officer at the time of an incident, this is sometimes referred to as "automatic" mutual aid.

MVA: Motor Vehicle Accident

National Fire Fighter Near-Miss Reporting System - Program developed by the IAFC that prevents injuries and saves the lives of fire fighters by collecting, sharing and analyzing near-miss experiences. It gives firefighters the opportunity to learn from each other through real life experiences, formulates strategies to reduce firefighter injuries and fatalities, and attempts to enhance the safety culture of the fire service.

NFPA: The National Fire Protection Association, which sets a number of standards for firefighting, equipment, and fire protection in the United States, and also adopted in many other countries.

NIMS: The National Incident Management System. A federally mandated program for the standardizing of command terminology and procedures. This standardizes communications between fire departments and other agencies. It is based upon simple terms that will be used nationwide. Currently, U.S. federally required training programs, from DHS and FEMA, are in the process of standardizing many terms and procedures under NIMS.

NIOSH: National Institute for Occupational Safety and Health. A U.S. agency responsible for investigation of workplace deaths, including firefighters.

Normal Operating Pressure: Pressure on a water system during regular domestic consumption.

Nothing showing: A report given by the first-arriving unit at an incident indicating to Dispatch and other responding companies that no smoke, fire, or other emergency situation is apparent.

Nozzle pressure: Pressure in a fire hose measured at the nozzle.

Nozzle reach: The distance a fire stream will travel from the nozzle tip before breaking up or evaporating due to air friction or heat.

Nozzle reaction: The force felt when water is pumped through a nozzle, e.g., 350 US gallons per minute (22 L/s) would produce a force of 40 pounds force (180 N) against the firefighter holding the nozzle.

Occupancy: Zoning and safety code term used to determine how a structure is permitted to be used and occupied, which in turn dictates the necessary safety structures and procedures.

Occupancy class: General categories of structures for purpose of safety planning, such as for hospital, assembly, industrial, single-family dwelling, apartment building, commercial, etc. Further broken down by types of hazards associated with particular occupancies, such as gas stations.

Occupant use hose: Light-weight 1½" diameter *firehose* pre-coupled to *standpipe* for emergency use by building occupants prior to arrival of *firefighters*. Often accessible by breaking glass to unlock a secure enclosure.

Off Duty - The time when a member is not serving in a specified assignment as a Department employee.

Offensive – means that conditions are safe enough to allow firefighters to fight the fire from the inside

Offensive attack: Method of firefighting in which water or other extinguishing agent is taken by firefighters, directly to the seat of the fire, as opposed to being pumped in that general direction from a safe distance. Typified by taking hoselines to the interior of a building as opposed to remaining on the outside, aka "surround and drown."

Officers: Fire Chief, Assistant Fire Chief, Inspector, Training Officer, Captain, Lieutenant.

On-call: Personnel who can be summoned (and paid) when necessary to respond to an incident; a type of "volunteer" fire department.

On Duty: A member is on duty during the period when actively engaged in the performance of regularly assigned duties, when performing a special assignment for the Department, or when directed by a supervisor to perform in the service of the Department at other than regularly assigned duty hours.

On-scene: means that a unit has arrived at the scene of the emergency.

OSHA: U.S. government agency concerned with regulating employee safety, particularly in hazardous occupations such as firefighting.

Out of service: A report indicating that an apparatus or ambulance is not available to respond to an alarm. This report should be accompanied by a message indicating the estimated length of time that the unit will be unavailable.

Outside fire: Urban fire not inside a building or vehicle, often found to be burning trash which could *extend* to nearby structures or vehicles if not dealt with properly. A suburban, *interface*, or rural *outside fire* could also be a wildland fire.

Outside stem and yoke valve (OS&Y): Type of gate valve actuator arranged such that the valve stem moves in and out of the handle, thus externally indicating whether the valve is open or shut, unlike the more common gate valve wherein the stem rotates and only the gate moves up and down inside the fixture.

Overhaul: is the process of confirming that the fire is completely out. It generally involves digging through rubble, wetting down hot spots and other such actions necessary to confirm that the fire is completely out.

Oxidizer: A hazardous material containing oxygen that can combine with adjacent fuel to start or feed a fire.

PASS device, personal alert safety system: An alarm device that signals that a firefighter is in trouble. It can be activated manually by the firefighter, or activates automatically if the firefighter stops moving. May be integral to SCBA or separately activated.

Personnel Accountability Report ("PAR"): End-result of *personnel accountability system*. Best report is *all hands, AOK*, worse is *squad missing*. You will often hear command ask for a "PAR" when something has changed on the fire ground. Often the reply will be something like, "Engine 4, PAR." or "Engine 4 has PAR." Some incident command systems specify a PAR for all personnel on the fire ground at specific time intervals during the course of a working fire.

Permit: Official permission given in writing to allow a special activity.

Personal alert safety system: See *PASS device* in Glossary of firefighting equipment.

Personnel accountability report: End-result of *personnel accountability system*. Best report is "All hands, AOK" - worst is "squad missing".

Personnel accountability system: Tag, 'passport', or other system for identification and tracking of personnel at an incident, especially those entering and leaving an IDLH area; intended to permit rapid determination of who may be at risk or lost during sudden changes at the scene.

Pickheaded axe: Standard *fire axe* having a 6 or 8 pound (2.7 to 3.6 kg) steel head with a cutting blade on one edge and a square, pointed pick on the opposite side. Come in various handle lengths.

Pike Pole: A piece of equipment used for overhaul. Most often it is used for the opening of ceilings. Of all the tools of the fire service, the pike pole is probably among the most often used.

Pitot Gauge: Instrument that is inserted into a stream of water to measure the velocity pressure of a stream.

Platform: is a fire truck that has an extension ladder with a working platform at the end, carries certain firefighting equipment and can be set up to flow large quantities of water from elevated positions.

Plug: Slang term for a fire hydrant. This survives from the days when water mains actually had holes in the tops that, after usage, were plugged with a tapered wooden plug. Many firefighters would like to keep this word while many others think it should be replaced with the accurate term, "hydrant".

Pompier Ladder: This is a ladder reportedly named for the firefighters of Paris, who are known as Pompiers. This ladder has a large hook on one end. A firefighter would stick this in the window of the floor above, climb out the window and up the ladder, where he would repeat the process. This is no longer used in the fire service.

Portable water tank: Collapsible reservoir used for storing water transported to *fireground* by *tanker*. May be inflatable or supported by a frame.

Positive pressure: Pressure at higher than atmospheric; used in SCBA facepieces and in *pressurized stairwells* to reduce entry of smoke or fumes through small openings. High volume, portable Positive Pressure Ventilation fans are now carried by fire departments and used to pressurize the fire building during interior attack to control smoke and heat ventilation at desired points.

Positive pressure ventilation (PPV): Ventilation of an area by the use of a fan to push clean air into that space and controlled use of openings for the escape of smoke and gasses.

Post indicator valve (PIV): A type of valve used for underground piping, having a lockable actuator atop a post with a window indicating "open" or "shut" status of the valve. It can be used to control a sprinkler system, hydrant or other device, or may be used as a divisional valve. Post indicator valves are also used for process and domestic water systems, and when this occurs on the same property, they are distinguished by color - red for fire, blue green or yellow for process water.

Preconnect: refers to a 1 ¾" preconnected hoseline that is our basic firefighting line. A common radio transmission is, "We're laying our preconnect." which means there is an active fire and firefighting operations are in progress.

Pre-fire, pre-incident planning: Information collected by fire prevention officers to assist in identifying hazards and the equipment, supplies, personnel, skills, and procedures needed to deal with a potential incident.

Pressure: Force per unit area, measured in pounds per square inch (psi).

Primary search: is a rapid search of unburned portions of the fire building for trapped occupants.

Probie: (also *rookie*) new firefighter on employment probation (a period of time during which his or her skills are improved, honed, tested, and evaluated).

Procedure - The official method for dealing with any given situation.

Progress report: A periodic radio report required from an incident commander to update Dispatch on the status of an incident.

Public alarm: Means for public to report a fire, includes telephone, street-corner pull-boxes, building pull-stations, and manual bells or sirens in rural areas.

Pumper: A fire truck with a water-pump and a water tank.

Pump operator, technician: person responsible for operating the pumps on a pumper and typically for driving the pumper to an incident.

Pyrolysis: Process of converting a solid substance to combustible fumes by raising its temperature. See also vaporization of liquids.

Quint: is a fire service apparatus that serves the dual purpose of an engine and a ladder truck. The name *quint* is derived from the Latin prefix quinque-, meaning five, and refers to the five functions that a quint provides: pump, water tank, fire hose, aerial device, and ground ladders.

Radiant extension: fire that has transferred ignition heat to adjacent materials across open space. One reason some city fire codes prohibit windows facing each other in adjacent warehouses.

Rapid Intervention Crew/Group/Team (RIC, RIG, or RIT): This is a standby crew whose purpose is to go in for the rescue of firefighters in trouble. While all of these versions of the name for a firefighter rescue crew either have been used or continue to be used in several areas, the National Incident Management System (NIMS) has adopted the term Rapid Intervention Crew/Company, ("RIC") to be the standard in the Incident Command System (ICS). Currently, U.S. federally required training programs, from DHS and FEMA, are in the process of standardizing many terms and procedures under NIMS.

Receiver: A mobile or base radio unit that allows a person to hear a radio message on a specific channel or frequency.

RECEO: RECEOVES stands for Rescue, Exposures, Containment, Extinguish, Overhaul, Ventilation, Environment, Salvage. This is used at structural fires internationally, as a guide to objectives.

Recruit:

(a) A new employee. Also known as rookie, probie, etc.

(b) The act of encouraging people to apply for employment with the department.

Recruit school: A formal training curriculum in which new employees are provided with at least the minimum number of training hours and subjects as required. Also known as an academy.

Reducer: Adapter used to attach a smaller hose to a larger hose. The female end has the larger threads, while the male end has the smaller threads.

Rehab, Rehabilitation sector: An area for physical and mental recuperation at a fire scene, usually equipped with beverages, and chairs, isolated from environmental extremes (cold, heat, noise, smoke). This rest area enables firefighters to relax, cool off (or warm up) and regain hydration by way of preventing injury. An EMT may be assigned to monitor firefighter vitals when they enter and leave rehab.

Rekindle: An instance where, due to re-ignition, the department is called back to a location where the fire was thought to have been extinguished.

Relief valve: A valve set to open at a specified pressure so as to not exceed safe operating pressure in hoses or pumps.

Repeater: A radio that receives a signal from another radio and rebroadcasts the signal with greater signal strength. For example, a five-watt handheld radio does not have the strength to transmit to all portions of a response area. However, a repeater can receive this weaker signal and rebroadcast it with a strength of 100 watts, sufficient to cover the entire district.

Report: A written communication in the appropriate form.

Rescue: Physical removal of a live person or animal from danger to a place of comfort.

Rescue Company: Squad of firefighters trained and equipped to enter adverse conditions and rescue victims of an incident. Often delegated to a truck company.

Reserve: Apparatus or ambulance units not on frontline duty but available in case a frontline unit is undergoing repairs. It is also available to be staffed by off duty personnel when necessary.

Residential sprinkler system: A sprinkler system arranged for fire suppression in a dwelling.

Residual pressure: The amount of pressure in a hydrant system when a hydrant is fully open, such as during a fire; should be engineered to provide domestic supply of water to homes and businesses during a large fire in the district.

Resources (NIMS): Personnel and major items of equipment, supplies, and facilities that are available for assignment to incident operation. Resources are described by kind and type; their status is maintained until released by supervisory personnel.

Respond: To answer an alarm in accordance with a prearranged assignment or on the instruction of the Dispatcher. To proceed to the scene of an incident or other event.

Responding: A term indicating that orders to proceed to an alarm have been received and the apparatus or medical unit is on its way.

Response: The act of responding to an alarm. Also, the entire complement of personnel and apparatus assigned to an alarm.

Response time: An interval of time measured from the receipt of a request for emergency service until the first unit or apparatus arrives at the scene of an incident.

Responsibility - A designated obligation which is established and can only be transferred through the chain of command. Responsibility cannot be transferred on one's own initiative.

Return to Station: means that the fire unit is not needed at the incident and may return to the fire station.

Reverse lay: The process of laying hose from a fire toward a source of water, i.e., a fire hydrant.

Riser: A vertical water pipe used to carry water for fire protection to elevations above grade, such as a standpipe or sprinkler riser.

RIT (Rapid Intervention Team): Firefighters with specialized training, experience and tools, assigned to stand by for rescue of other firefighters inside a structure.

Rollover: The ignition of ceiling-level fire gases. Contrast *Flashover*, above.

Roof sector (Roof group, Roof division): A crew, typically a ladder company, assigned to the roof of a structure, most often for purposes of vertical ventilation during a fire. May also be assigned to check roof-mounted equipment, HVAC, etc., for fire or malfunction.

Rope hose tool: Short strap or rope with a hooks at both ends for wrapping around a charged hose to secure it in position or to assist in moving it.

Roof Ladder: Straight ladder with folding hooks at the top end. The hooks anchor the ladder over the roof ridge.

Run number: The number filled out by Dispatch for each incident dispatched.

Salvage: Removing or covering personal property which could be subjected to possible smoke, fire, water or other damage during firefighting, or removal and diverting of smoke and water to prevent further damage. Stopping a broken sprinkler head is one type of salvage operation as is the closing of doors to uninvolved rooms.

Salvage Cover - Tarpaulins folded or rolled for quick deployment to cover personal property subjected to possible water or other damage during firefighting.

SAR: See *Search and rescue*.

SCBA: Self Contained Breathing Apparatus, or *air-pack*, worn by firefighters to protect against toxic fumes and smoke, or where the air has insufficient oxygen. Often incorrectly called "oxygen mask" by laypersons. These are typically *open circuit* style, with a supply of compressed air, where expired air is exhausted, rather than *closed circuit* where it is filtered, re oxygenated from compressed oxygen, and inhaled again—which is used where an air supply is needed for an extended period (up to four hours).

Scene safety: Steps taken at or near an emergency scene to reduce hazards and prevent further injuries to workers, victims or bystanders.

Search and rescue (or SAR): Entering a fire building or collapse zone for an orderly search for victims and removal of live victims. Becomes "recovery" if victims are not likely to be found alive. May be done in quick primary wave and more thorough secondary search.

Secondary containment: A system to contain a hazardous material should the primary means of containment (container) fail, e.g. by leakage. The secondary container is required to hold 110% of the capacity of the primary container.

Secondary Search: is a slow methodical search after the fire is out. The purpose of the secondary search is to determine if there was a fire victim that may not have been found during the primary search.

Section (NIMS): Any of four major functional components – operations, planning, logistics, and finance – that comprise general staff. Sections may be subdivided by geographic or functional responsibilities into branches, divisions, or groups.

Sector: A specific task assignment (e.g., Staging), a geographic area (e.g., north sector), or an operational area (e.g. interior sector) of an incident that is designated and assigned by the incident commander. This is a command and control function. Sector commanders should coordinate their activities with the incident commander and use their assignment as their radio identifier. During high-rise operations, the sector designation corresponds to the floor of the building.

Shall or May: “Shall” means mandatory; “May” denotes permissiveness.

Shift: Assigned duty hours.

Shoulder load: The amount of hose a single firefighter can pull off a hose wagon or pumper truck and carry toward the fire.

Siamese: Hose appliance that combines two or more lines into one.

Sides A, B, C, and D: Terms used by firefighters labeling the multiple sides of a building starting with side A or Alpha being the front of the structure and working its way around the outside of the structure in a clockwise direction. This labels the front side A or Alpha, the left side B or Bravo, the rear side C or Charlie, and the right side D or Delta.

Signal: A radio message referring to the strength of a radio transmission and the listener's ability to hear and understand the message.

Single Resource: An individual vehicle and its assigned personnel.

Size-up: initial evaluation of an incident, in particular a determination of immediate hazards to responders, other lives and property, and what additional resources may be needed. Example: "Two-story brick taxpayer with heavy smoke showing from rear wooden porches and children reported trapped."

Smoke detector:

1. part of a fire alarm system that detects and signals presence of smoke
2. self-contained household device for same purpose as (1) but with its own noisemaking device.

Smoke ejector: Powerful fan for moving large amounts of air and smoke as part of ventilation task while fighting fire in a burning structure. May be operated by electricity or gas motor for positive or negative pressure ventilation.

Soft suction hose, soft sleeve: A short piece of fire hose, usually 10 to 20 feet (6.1 m) long, of large diameter, greater than 2.5 inches (64 mm) and as large as 6 inches (150 mm), used to move water from a fire hydrant to the fire engine, when the fire apparatus is parked close to the hydrant.

Solid Stream: A fire-fighting water stream emitted from a smooth-bore nozzle. This fire-fighting stream has the greatest reach and largest drops of water.

Spanner Wrench: Small tool primarily used to tighten or loosed hose couplings; can also be used as a prying tool or a gas key.

Span of Control (NIMS): The number of personnel that a supervisor is responsible for. Span of control is often expressed as the ratio of supervisor to personnel. Appropriate IMS span of control ranges between 1:3 and 1:7

Special Order: A written order issued by the Fire Chief applicable to the entire Department or to a division thereof, which establishes a temporary principle, policy, or procedure on a given subject, usually for a specific period of time. When the effective period is not specified, it automatically becomes inoperative with the passing of the incident or situation causing its issuance.

Sprinkler system: fire suppression system in a building, typically activated by individual heat-sensitive valves, or remotely controlled by other types of sensors, releasing water onto the fire. May be "wet" (water-filled) or "dry" (air-pressurized).

Staging: A designated location(s) at an incident where apparatus, equipment, and personnel are assembled for deployment. The person in charge of a staging sector will coordinate his activities with the incident commander and will use the term Staging as his radio identifier. When more than one staging area or sector is used at an incident, a geographic identifier will be used, such as Forward Staging.

Standard operating procedure, guideline (SOP or SOG): Rules for the operation of a fire department, such as how to respond to various types of emergencies, training requirements, use of protective equipment, radio procedures; often include local interpretations of regulations and standards. In general, "procedures" are specific, whereas "guidelines" are less detailed.

Standpipe: system of pipes inside a building for conducting water for [fire hose](#) attachments; may be pressurized with water ("wet") or remain "dry" until activated in an emergency; supplied either from a [fire hydrant](#) attachment or from a [fire engine](#)'s pump. Permits firefighters to reach higher levels of tall buildings without having to run hoses up the stairs. Known as "wet riser" and "dry riser" respectively in the United Kingdom.

Static Pressure: Stored potential energy available to force water through fire hose and appliances. Static means at rest or without motion.

Station: A building or quarters that houses on-duty personnel and apparatus.

Steamer outlet: Large outlet of *fire hydrant*.

Storz coupling: A type of coupling used on fire hose. The coupling is sexless, and secures with a 1/4 turn of the coupling. The coupling may or may not have some sort of locking device.

Straight lay: means that an Engine company is deploying a supply line and is laying the line from the hydrant to the fire.

Straight Stream: A fire-fighting water stream generated by a combination nozzle, characterized by a long reach and large water drops. It is essentially the narrowest of fog patterns that can be produced.

Strainer:

1. A large metal device attached to the end of a suction hose that prevents debris from entering the hose or the pump when drawing water from a pond or other body of water.
2. A stationary accumulation of debris in a moving body of water.

Stream Shaper: A smoothbore pipe with baffles inside of the pipe. Usually a stream shaper is used on a master stream device between the outlet housing of the device and a smooth bore tip to reduce the agitation of water traveling to the tip so as to produce a better stream.

Strike Team (NIMS): Multiple units, often five in number, of the same resource category that have an assigned strike team leader.

Structure fire (or "structural fire"): A fire in a residential or commercial building. Urban fire departments are primarily geared toward structural firefighting. The term is often used to distinguish them from *wildland fire* or other *outside fire*, and may also refer to the type of training and equipment such as "structure PPE" (personal protective equipment).

Supply line, supply hose, large-diameter hose: fire hose, usually larger than 2.5 inches (64 mm) in diameter, used to transport water from one source to another, such as from a hydrant to a fire engine or from one engine to another. Short pieces of this hose used to attach to a hydrant are often called "Soft Suction" (see above).

Support: In incident command, those logistical functions that aid the resolution of the incident.

Suppression: The total work of extinguishing a fire, beginning with its discovery.

Suspension: The act of temporarily denying a member the rights and privileges of performing duties as a member of the Department.

Tag accountability: System in which each firefighter is issued two identification tags, one of which is then collected by a safety officer and held while the firefighter is in a hazardous area. To reclaim the tag, the firefighter must present the matching tag upon exit from the hazard. Any unclaimed tags after an "event" (such as a collapse or explosion) means the corresponding firefighters are missing. May be implemented as **passport** system in which first tag is presented to staging officer upon arrival (for tracking) and second tag is held by IDLH safety officer, as above.

Tailboard: Portion at rear of fire engine where firefighters could stand and ride (now considered overly dangerous), or step up to access hoses in the *hose bed*.

Tanker: In use for a long time to refer to a truck designed solely to transport a large quantity of water. Sometimes these trucks are referred to as "Tenders" (see Tender below) and the term "tanker" is reserved for aircraft equipped to carry water or fire retardant for use in wildland fire suppression.

Task Force (NIMS): Any combination of single resources, but typically two to five, assembled to meet a specific tactical need.

Taxpayer: Description of a fire building used primarily as a private dwelling.

Tender: A wheeled fire apparatus equipped to carry large volumes of water to a fire. Often used in areas without an adequate or universal water supply system, such as rural areas without hydrants. They may carry anywhere from 1500 to 7500 gallons of water. Tenders may have pumps and associated hardware to facilitate their mission. Some departments may still refer to these apparatus as "Tankers."

Territory: A geographic area served by a single fire station or the entire area served by a department. See also District.

Thermal imaging camera (TIC): Ruggedized infrared equipment used by some firefighters to detect hidden people, animals, heat sources (i.e., fire) and structural compromise.

Tied up: A fire company engaged for a period of time and unable to respond to incidents.

Trash Line: A pre-connected attack line that is typically 1¾" diameter, and stored either on the front bumper of the apparatus or in an exterior (exposed) side well. Trash Lines are typically shorter length than Cross Lays, and are intended for use against dumpster fires, etc., where a longer length of hose (and consequent rebedding after the suppression is complete) is not desired.

Triple Lay ("Triple Fold", "Triple Load"): A method of loading pre-connected attack line into a hose bed or crosslay, often facilitating rapid hose deployment in a pre-flaked configuration.

Truck company: a group of firefighters assigned to an apparatus that carries ladders, forcible entry tools, possibly extrication tools and salvage covers, and who are otherwise equipped to perform rescue, ventilation, overhaul and other specific functions at fires; also called "ladder company".

Turnout gear: The protective clothing worn by firefighters, made of a fire-resistant material such as Nomex or Aramid, and designed to shield against extreme heat. Sometimes called **bunker gear**. See PPE. Includes helmet, jacket and boots, and some departments include fire-resistant pants.

Two-in, two-out (or "two in/two out"): Refers to the standard safety tactic of having one team of two firefighters enter a hazardous zone (IDLH), while at least two others stand by outside in case the first two need rescue — thus requiring a minimum of four firefighters on scene prior to starting interior attack. Also refers to the "buddy system" in which firefighters never enter or leave a burning structure alone.

Type I, II, III, IV, V Building: U.S. classification system for fire resistance of building construction types, including definitions for "resistive" Type I, "non-combustible" Type II, "ordinary" Type III, heavy timber Type IV, and "frame construction" Type V (i.e., made entirely of wood).

UL listing: A certification standard. This listing means the product has been safety certified by the Underwriter's Laboratory.

Under control: A fire is sufficiently surrounded and quenched so that it no longer threatens destruction of additional property.

Underground storage tank: A tank that happens to be underground.

Unified Command (NIMS): Incident management performed by representatives of several agencies to assure that a consistent response plan is developed and deployed and that all actions are performed in a safe, well-coordinated manner.

United States Fire Administration (USFA): Division of the Federal Emergency Management Agency (FEMA), which in turn is managed by the Department of Homeland Security (DHS).

Unity of Command (NIMS): A management concept that assures that each responder has only one direct supervisor.

Universal precautions: The use of safety barriers (gloves, mask, goggles) to limit an emergency responder's contact with contaminants, especially fluids of injured patients.

U.S.A.R: Urban Search and Rescue.

Utility rope: A rope designed for non-life safety applications. This includes hauling equipment or securing ladders, as opposed to belaying.

Vapor pressure (equilibrium vapor pressure): The pressure of a vapor in thermodynamic equilibrium with its condensed phases in a closed system.

Vapor suppression: Process of reducing the amount of flammable or other hazardous vapors, from a flammable liquid, mixing with air, typically by careful application of a foam blanket on top of a pool of material.

Vehicle fire: Type of fire involving motor vehicles themselves, their fuel or cargo; has peculiar issues of rescue, explosion sources, toxic smoke and runoff, and *scene safety*.

Ventilation: Important procedure in firefighting in which the hot smoke and gases are removed from inside a structure, either by natural convection or forced, and either through existing openings or new ones provided by firefighters at appropriate locations (e.g., "vertical ventilation" is the classic cut-a-hole-in-the-roof method). Proper ventilation can save lives and improper ventilation can cause backdraft or other hazards.

Ventilation saw: A high-powered saw with metal-cutting teeth or disc for quickly making large openings in roofing materials. Often, a chain saw with an attached guard to limit the depth of cut.

Venturi effect: Creating a partial vacuum using a constricted fluid flow, used in fire equipment for mixing chemicals into water streams, or for measuring flow velocity.

VES: Vent, Enter, Search.

Vertical ventilation: Ventilation technique making use of the principle of convection in which heated gases naturally rise. This is the classic cut-a-hole-in-the-roof method that helps release the smoke and hot gases that accumulate near the ceiling or attic space.

Void Spaces: Enclosed portions of a building where fire can spread undetected.

Volunteer fire department: A group of part-time firefighters who may be unpaid or paid when on-call, during incidents, or drills. Often professionally trained and equipped with state-of-the-art equipment.

Wash down: The cleansing or removal of gasoline, diesel fuel, or other petroleum products from a roadway following a motor vehicle accident. Originally meant to wash the product down into a ditch or storm sewer. Now the product has to be collected due to environmental regulations.

Water curtain nozzle: A nozzle designed to throw a fan of water droplets to form a "curtain" in an attempt to reduce the risk of radiated heat igniting a nearby *exposure*.

Water drop: A forest fire fighting technique when an airplane (also called an "airtanker") or helicopter drops a supply of water or other fire suppressant onto an exposed fire from above.

Water flow alarm: An audible alarm indicating that one or more sprinkler heads have been activated. "Flow" is often detected by a change in pressure, subjecting these systems to false alarms if anything affects the water pressure feeding the system, however transient.

Water hammer: Large, damaging shock wave in a water supply system caused by shutting a valve quickly, or by permitting a vehicle to drive across an unprotected fire hose.

Water supply: In incident command, the officer assigned to provide an adequate supply of water to meet the fire flow demand at a given incident.

Water tender or Water tanker: Large, mobile tank of water or other firefighting agent; may be airborne, as used in wildland firefighting, or truck-mounted. Essential in rural areas lacking hydrants.

Water thief (valve): Type of *gated wye* having one or more outlets smaller than the largest outlet.

Webbing: A strong fabric woven into a strip. Used to drag victims, as a hose strap, or to secure objects.

Well Involved: Term of size-up meaning fire, heat and smoke in a structure are so widespread that internal access must wait until fire streams can be applied.

Wildland fire: A fire involving natural groundcover such as grass, brush, and trees.

Working fire: A fire that requires firefighting activity on the part of most or all of the personnel assigned to the alarm.

Wye: Hose appliance with one inlet and two or more outlets that are usually gated.

Velocity: Speed at which water travels through fire hose, measured in feet per second (FPS).

Yield: What other drivers are supposed to do when they see or hear emergency vehicles approaching with lights and/or sirens activated.

Zone: Section of structure indicated on a *fire alarm control panel* where sensor was activated, which may also have separate HVAC and fire suppression controls. May also refer to the act of zoning a geographic area in which certain types of occupancies are restricted or preferred, due to concerns for fire safety and the availability of fire protection and emergency evacuation routes.