

The History of Fire Prevention



Fire Prevention Month



Emergency Action Plan (EAP)

- The Emergency Action Plan (EAP) outlines the emergency procedures to be taken in the event of an emergency.
- The EAP covers not only fire emergencies, but several other potential emergency events.

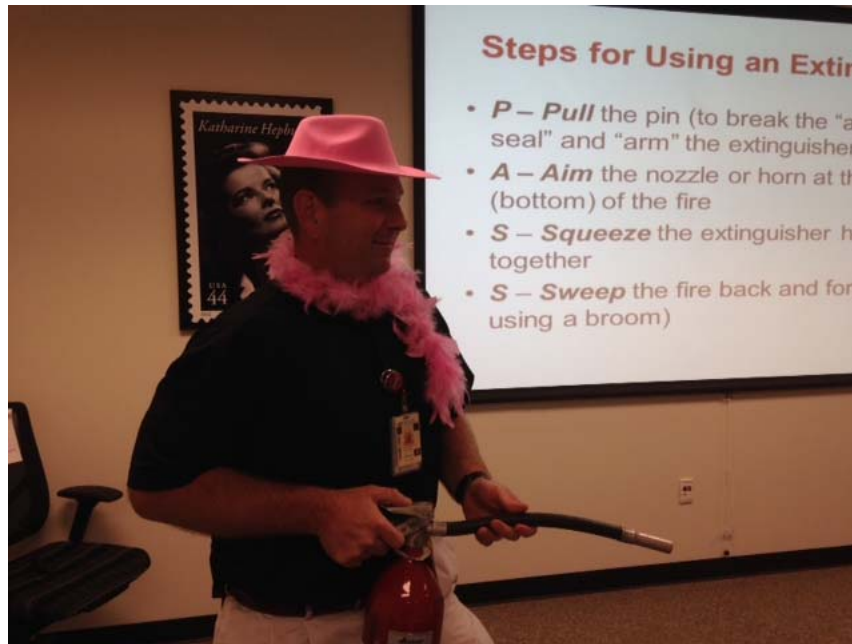
Fire Extinguishers

- There are five classes of fires, and fire extinguishers should be labeled as to what class they can be used on:
- CLASS A – Fires involving ordinary combustible materials (e.g. wood, paper, cloth, etc.)
- CLASS B – Fires involving flammable liquids or gasses (e.g. gasoline, methane, etc.)
- CLASS C – Fires involving “energized” electrical equipment (e.g. transformers, electric motors, etc.)
- CLASS D – Fires that involve combustible metals (e.g. titanium, magnesium)
- CLASS K – Fires involving cooking liquids made from saturated animal fats (usually found in restaurants)



Steps for Using an Extinguisher

- **P – Pull** the pin (to break the “anti-tamper seal” and “arm” the extinguisher)
- **A – Aim** the nozzle or horn at the base (bottom) of the fire
- **S – Squeeze** the extinguisher handles together
- **S – Sweep** the fire back and forth (like using a broom)



Fire Prevention Month



*“An Ounce of
Prevention is Worth
a Pound of Cure...”*

- Ben Franklin



The strict fire and building codes we have today were unknown in eighteenth century America. Most houses were built of wood and heated by open hearths and fireplaces. The danger of fire raging throughout a town or city was ever present. Some cities, such as Boston, established loosely organized fire fighting companies to help prevent disaster.



Never one to let a hot idea go up in smoke, Franklin suggested that Philadelphia should have fire-fighting clubs modeled after the ones in Boston. After writing about it in the *Gazette* and after much discussion, he organized the Union Fire Company, which was incorporated in 1736.



Members of the fire company pledged to help one another should fire break out or threaten one of their homes or businesses. Not only would they attempt to put out the flames, members would also help save goods within the building and protect the building from looters. Members were not required to help protect properties of non-members.



Members had to provide at least two buckets for carrying water and several cloth bags for carrying items rescued from the fire. The original twenty-five members of the group met once a month to discuss fire-fighting techniques, to establish company policies, and, of course, to socialize.



Soon fire companies and clubs sprang up all over Philadelphia and most of the city fell under the protection of one or another of the companies—yet another civic improvement brought to us by the work of Benjamin Franklin.

History of the Fire House Dog





In the 1800's fire engines were horse- driven carriages. Unfortunately, horses and much of the other equipment found in a fire station were a prime target for thieves at that time, especially in some of the poorer urban areas (which is where the majority of fires occurred).

Some firefighters tried to combat thievery by sleeping alongside their steeds, but there are times when nothing will wake a man exhausted from battling a blaze for hours on end.



Eventually the solution became clear: a watchdog. And not just any watch dog. Dalmatians, it was discovered, more than any other breed of dog, formed an amazingly close bond with horses once they were introduced.



They also became quite protective and possessive of their equine friends, so it became impossible for anyone to try and spirit away a horse under the cover of darkness.

After they solidly established a reputation as being ferocious (when necessary) guardians, the spotted pooches were also used by stagecoach drivers for the same purpose, and were often called "coach dogs."

Triangle Shirtwaist Factory



March 25, 1911, fire spread through the cramped Triangle Waist Company garment factory on the 8th, 9th and 10th floors of the Asch Building in lower Manhattan. Workers in the factory, many of whom were young women recently arrived from Europe, had little time or opportunity to escape. The rapidly spreading fire killed 146 workers.



The building had only one fire escape, which collapsed during the rescue effort. Long tables and bulky machines trapped many of the victims. Panicked workers were crushed as they struggled with doors that were locked by managers to prevent theft, or doors that opened the wrong way. Only a few buckets of water were on hand to douse the flames. Outside, firefighters' ladders were too short to reach the top floors and ineffective safety nets ripped like paper.



The catastrophe sent shockwaves through the city beginning in the communities of immigrant workers on Manhattan's Lower East Side, where families struggled to identify their lost in makeshift morgues. Family grief turned to citizen anger as the causes of the fire – including the abhorrent working conditions at the time – were exposed.

The public outcry over what was clearly a preventable tragedy brought a renewed sense of urgency to the labor movement and to other groups working to improve women's and immigrants' rights in the workplace.

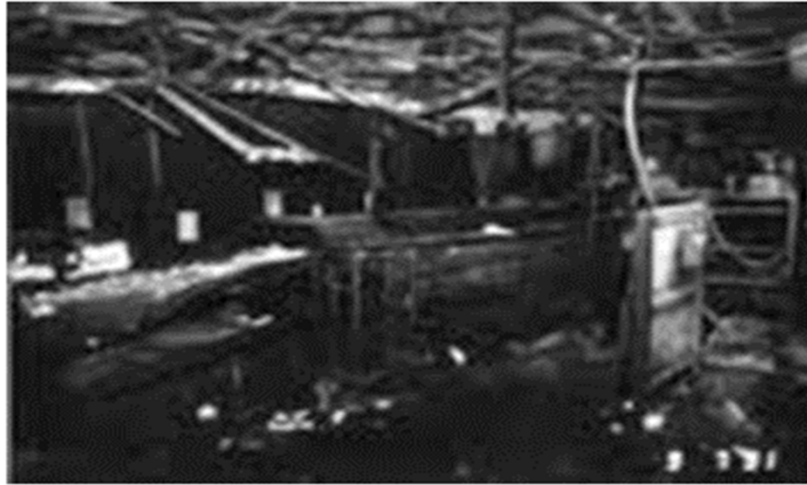
Frances Perkins, who became the Secretary of Labor under President Franklin D. Roosevelt, witnessed the horror from Washington Park, recalling later that what she saw convinced her that "...something must be done. We've got to turn this into some kind of victory, some kind of constructive action." Perkins and other leaders with direct experience of the Triangle fire, like New York Governor Al Smith, soon helped marshal new workplace safety standards into law in the State of New York, setting an example for the rest of the country.

The Triangle factory fire remained the deadliest workplace tragedy in New York City's history until the terrorist attacks on the World Trade Center 90 years later.

Hamlet Chicken Plant



The **Hamlet chicken processing plant fire** was an industrial fire in Hamlet, North Carolina, at the Imperial Foods processing plant on September 3, 1991, resulting from a failure in a hydraulic line. 25 workers were killed and 55 injured in the fire, trapped behind locked fire doors. In 11 years of operation, the plant had never received a safety inspection. Investigators believe a safety inspection might have prevented the disaster.



The interior was a "maze of large rooms separated by moveable walls", and both workers and the product moved around the interior from process to process, going from front to rear. Imperial's operators usually kept the doors of the chicken plant padlocked and the windows boarded, to prevent theft, vandalism or other criminal acts. There had been no safety inspections by the state due to a lack of inspectors. The poultry inspector visited the site daily and knew of the fire violations. One worker stated that much of the chicken meat was rotten, and that the reason it was processed into chicken nuggets was to disguise the foul taste. He did not report these violations. Some workers were made nervous by the locked doors but did not voice their concerns for fear of losing their jobs.



A federal investigation was launched. Owner Emmett Roe received a 20-year prison sentence, of which he served only four years. The company received the highest fine in the history of North Carolina, which was less than the federal minimum. As a result, the federal government took over enforcement of much of North Carolina's worker safety laws. Survivors and victims' families accused the fire service and city of Hamlet of racism, leading to two monuments to the tragedy being erected. The plant was never reopened.



THE FORGOTTEN FIRE



- On October 8th, 1871, the small Wisconsin logging town of Peshtigo was consumed by one of the most severe and woefully under-reported fires in human history.
- After a hot and dry year, with a mere two inches of rain falling from July through September, churchgoers were praying for much-needed precipitation. The creeks had dried up, and the Peshtigo River, which many residents relied upon for transportation and water, was dangerously low.
- In the midst of that quiet Sunday evening, the tiny township was totally annihilated – charred by a gigantic fire that engulfed the buildings, the countryside, and even the townsfolk themselves. Even today the little-known blaze holds the distinction of being the deadliest fire ever to occur in the US.

- More than 2,000 people were in the town on the morning of the fire. The population was swollen by crews of volunteers, enlisted to battle the sporadic wildfires that were scattered throughout the surrounding areas. The smoke from these fires hung in the air, making breathing difficult. Shortly after 8:30 pm, a dull roar caused alarm throughout the town. Flames from scattered wildfires had been whipped up into a blazing inferno by strong winds, placing a fire on a direct path towards Peshtigo. The firefighters and residents rushed to battle it with buckets of water, but quickly realized the gravity of the situation. They threw their buckets aside, headed to their homes to collect their families, and fled toward the relative safety of the Peshtigo River.

- Soon a two-thousand degree Fahrenheit surge of flames overtook the small community. The extreme heat agitated the atmosphere into a flurry of superheated tornadoes and hurricane-force winds. A scorching hail of embers, white hot sand, and debris peppered the town. Rooftops were blown off of houses, and chimneys crumbled.



- As the fire approached the frantic citizens, they did everything they could in their desperate attempt to escape. Many jumped into wells, hoping the water would help protect them, only to be boiled alive. As people inhaled the superheated air, they dropped dead, their lungs charred. Men, women, and children rushed for the bridge that spanned the Peshtigo River, but it had not escaped the fire's indiscriminate carnage. As the townspeople crossed the bridge, it succumbed to the abuse of the flames and collapsed in a deadly heap. Even more had rushed into the river itself, hoping the water would help protect them from the looming inferno; but the fire bombarded the people with burning wreckage. The river was soon littered with lifeless bodies.

- Superheated winds and tornadoes pulled the heated air upward into the sky, allowing cooler air from Canada and the Western United States to rush in to fill the vacuum. At first these counter winds fed more oxygen to the fire, until ultimately the sucking force was strong enough to cause a major change in wind direction. The fire was blown back onto itself, and it soon starved from a lack of fresh fuel. A mere ninety minutes had passed since the inferno's arrival, but the entire town of Peshtigo had been reduced to smoldering rubble.
- *The following day, the much-needed rain arrived, soaking the blackened remains of the ruined town.*

- In the aftermath of the disaster, news of a great fire in the Midwest was splashed in headlines across the nation. Tragically, none of the stories concerned Peshtigo: all attention was focused on one of the region's larger settlements, Chicago, which had suffered its own terrible blaze the same day- killing around 250. More than 1,200 souls had perished in the Peshtigo Fire, although the true total will never be known due to the town records being destroyed in the blaze. It destroyed every building in town, save one newly-erected building with wood too green to burn. More than 1.25 million acres of forest and prairie were scorched before the winds died down and the fire burned itself out, and the fire caused millions of dollars in damage. Over 350 victims of the fire were buried together in a mass grave, their remnants too charred to be identified.

- News of the tragedy in Wisconsin took days to reach the public, being dwarfed by that of the great Chicago Fire, a mere 240 miles south. With no relief supplies or aid en route to the town, the Governor of Wisconsin issued a special proclamation to divert aid from Chicago to Peshtigo. Relief poured in, and soon, over \$150,000 was raised to rebuild the town.
- The fire was officially blamed on the severe drought conditions, but no one could be certain what sparked the destruction. The unusually dry year had effectively turned the countryside, and much of the town, into a giant expanse of kindling. The area's wetlands had completely dried up, leaving no moisture for the land. This provided a perfect condition for a colossal fire.

Although the true cause of the fire may never be known, it is certain that the 8th of October will never be forgotten. Though the township of Peshtigo survived in spite of the fire, it still bears the scars of one of the most horrific fires in history.



The Collinwood School Fire



On Ash Wednesday, March 4, 1908, Collinwood's Lake View Elementary School became the site of the country's worst school tragedy. Shortly after 9:00 a.m., and while school was in session, overheated steam pipes ignited nearby wood joists.

The Lake View School was a fire trap, though buildings designed similarly could be found throughout the nation. During the fire, the school's masonry exterior acted as a chimney, sucking flame upward as the wooden interior burned. Open stairways and the absence of fire breaks enhanced the chimney effect. Lake View had only two exits and fire quickly blocked the front door. Children rushed to the rear door, but, in a vestibule narrowed by partitions, they stumbled and climbed on top of one another, forming a pile that completely blocked the exit.

Though later accounts sometimes described children pinned against inward-swinging doors, Lake View's doors opened outward. The vestibule, however, created an impassable bottleneck for the crowd trying to rush through it. Collinwood's small volunteer fire department and horse-drawn engines arrived too late and were ill-equipped to battle the inferno in front of them. In less than an hour, the three floors and the roof of the Lake View School collapsed into the basement, leaving only a hollowed out brick ruin.

In less than an hour, the three floors and the roof of the Lake View School collapsed into the basement, leaving only a hollowed out brick ruin. Collinwood at that time was a small community of roughly 8,000 citizens, and many families lived near the school. When word of the fire spread through the neighborhood, hysterical parents rushed to the scene to find and rescue their children. Some tried to pull the children out of the doorways, or stood below the upper windows in an attempt to catch the jumpers. Sadly, most of their efforts proved futile, and they were left to watch helplessly as the fire consumed the entire building.

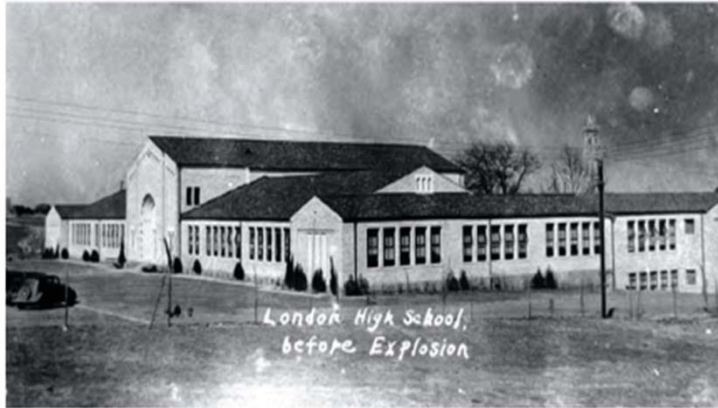
Almost half of the children; 172 students, two teachers, and one rescuer died in one of the deadliest school disasters in US history. The town of Collinwood paid for the burial of nineteen unidentifiable bodies in a shared grave at Cleveland's Lake View Cemetery.

The origin of the fire remains uncertain, though explanations proliferated. Newspapers circulated many possibilities, sometimes blaming the building's janitor, Fritz Hirter, for inattentiveness and running the boiler too hot. Other times, girls smoking in a basement closet near inflammable materials came under scrutiny. A quickly completed coroner's inquest concluded that heating pipes running next to exposed wooden joists ignited the building. The coroner blamed the fire on "conditions" and held no one legally accountable for it.

The school after the fire.



New London School



It was the worst school disaster in U.S. history. In March 1937 a gas leak in the basement of the 1,200-student Consolidated School in New London caused a massive explosion that killed almost 300 children and teachers. So chaotic was the scene that an exact count of the dead was impossible, although the tally of the injured was pegged at 184. In a grim irony, the blast was caused by a petroleum product that had greatly enriched the small town just east of Tyler Texas.



The Consolidated School of New London, Texas, sat in the middle of a large oil and natural gas field. The area was dominated by 10,000 oil derricks, 11 of which stood right on school grounds. The school was newly built in the 1930s for close to \$1 million and, from its inception, bought natural gas from Union Gas to supply its energy needs. The school's natural gas bill averaged about \$300 a month. Eventually, officials at Consolidated School were persuaded to save money by tapping into the wet-gas lines operated by Parade Oil Company that ran near the school. Wet gas is a type of waste gas that is less stable and has more impurities than typical natural gas. At the time, it was not completely uncommon for consumers living near oil fields to use this gas.



Hundreds of horrified relatives rushed to the school; some 1,500 oil workers helped clear debris, recover bodies, and search for survivors. Garages, churches, and even the roller rink were used as makeshift hospitals and morgues.

Thousands of people turned out to help, to gawk, to sell tombstones and insurance, and—in the case of a young Walter Cronkite—to cover the story. Governor James Allred declared martial law to regulate traffic and rescue efforts. The many messages of condolence included a telegram from Adolph Hitler.



Although dozens of grieving families filed lawsuits against the school district, a judge dismissed those that came to trial; no official was held liable and no fine was ever levied. Within two months, however, the Texas Legislature had passed a law requiring refiners to add a scent to natural gas, which is otherwise odor-free. Today, because of the familiar stink of a chemical called mercaptan, another tragedy like New London is far less likely to occur.



The Iroquois Theater Fire (1903)



Just a few decades after the city's Great Fire, Chicago suffered another fiery tragedy when the opulent Iroquois Theatre caught fire with 602 people trapped inside.

These mass casualties inspired federal and state overhauls of codes that affect public spaces, and these codes continue to govern our theatres and other entertainment and hospitality venues to this day.

Like the “unsinkable” Titanic, the “fireproof” Iroquois Theatre proved to be anything but. Tragedy struck on December 30, 1903, when a stage light sparked and ignited a curtain during a packed performance of a play. Some exit doors opened inward, but the vast majority – 27 of 30 total exit doors – were blocked with curtains or locked with strange mechanisms. The audience panicked as many failed to escape, and nailed-off vents trapped the smoke and heat inside with them.

Hundreds of separate, preventable tragedies made this the deadliest fire in American history, killing 602 people in a gruesome and traumatic event. Today we can relate to the fear those theatergoers must have felt, but we also know their deaths weren't in vain. After the fire, panic bars were introduced to make emergency exits more accessible, maximum seating capacities were enforced to prevent crushing crowds

Ventilation standards were changed to prevent fireballs and smoke buildup, and numerous regulations were passed to ensure that buildings have clear pathways, clearly marked exits, and doors that are unlocked and easy to open.



Cocoanut Grove Nightclub Fire (1942)



The last fire on our list is another great example of the importance of maximum capacity laws. Built in 1916, Cocoanut Grove was one of Boston's hottest nightclubs, but the owners completely ignored fire safety standards inspired by the Triangle Shirtwaist Fire. Instead of providing safe exits and clear, unobstructed paths, they filled the space with false walls, locked doors, and narrow hallways before letting in more than 400 extra people.

Though 600 was the limit for Cocoanut Grove, more than 1000 people were there when a lit match came in contact with a piece of décor. Though the fire raged for only 12 minutes inside the nightclub, it killed 492 people and injured another 200 people, largely because of the lack of accessible exit doors. The main exit – a revolving door at the entrance – jammed almost immediately, causing up to 200 of the deaths that night.

Fortunately, other establishments paid attention to the tragedy at Coconut Grove. Businesses began to follow the national Fire Protection Association (NFPA)'s codes and improving their exits and exit paths. Three years after the disaster, the NFPA introduced changes to the Code that affected lighting, signs, loose chairs, stairway enclosures, and even the types of interior finishes that could be used in similar settings.

Questions?

The end...

