Industrial fire department, industrial fire brigade, or emergency response team, are all basically the same descriptive names for a specialized, on-site, or private emergency response team or organized fire department located in an industrial setting that provides tasked with preventing and suppressing fires, explosions, and hazardous material incidents at high-risk locations like chemical plants, refineries, and manufacturing facilities. They are highly trained professionals or designated employees focused on protecting specific industrial infrastructure, personnel, and assets.

Unlike municipal firefighters, these teams focus specifically on site-specific hazards, complex industrial processes, and large-scale emergency management. They can range from full-time, dedicated professionals to facility employees (operations, production) functioning as an Emergency Response Team (ERT) or brigade. Their key duties include fire suppression, managing hazardous materials (hazmat), technical rescue, and providing emergency medical services (EMS) within the facility. These teams are held to the standards and regulations set forth in OSHA standard 1910.155, which applies to fire brigades and the NFPA 600 standard for facility fire brigades. OSHA has not updated its fire brigade standard since it was published in 1980. This standard has recently undergone a total rewrite and is in draft form (as of November 2024).

Industrial fire departments have two primary types of fire brigades: full-time dedicated industrial firefighters and emergency response teams (ERTs). Both fall under the industrial firefighting umbrella and are trained to maintain safety, stabilize incidents, conserve property, and protect organizations from fire-related threats. Full-time dedicated industrial firefighters are just that, full-time. Their primary responsibility in the industrial setting is responding to emergencies, fire, hazmat, technical rescue, or EMS. ERT members primarily have two job functions: working in operations and responding to emergencies. When an on-site incident occurs, ERT members leave the first function to perform at the second. ERT members can perform either advanced exterior or interior structural firefighting based on the level of training they have received for their specific industry.

Industrial fire brigades emerged in the 19th century as private, company-funded units designed to protect factories, mills, and warehouses from catastrophic fires, particularly during the industrial revolution. Initially, these teams were essential due to the lack of municipal fire services, using specialized equipment like steam engines and early, intense, military-style training to protect capital investments.

As industrialization increased risks from new materials (cotton, wool, steel), factories created their own fire teams, which were often better equipped than public services of the time. By the early 1900s, private brigades were increasingly superseded or complemented by professional municipal departments, but companies continued to maintain in-house teams to manage immediate threats. Throughout the 20th century, industrial brigades adopted advanced technologies, including chemical extinguishing agents, internal combustion engines, and specialized training to combat unique hazards. Today, industrial fire brigades or emergency response teams focus on high-risk

environments like refineries, chemical plants, and manufacturing centers, focusing on both suppression and prevention.

The term “industrial fire” is pretty self-explanatory. It refers to any fire that occurs in a business setting, especially an industrial or manufacturing complex. Such buildings are often significantly larger than houses and tend to contain chemicals, machines, and processes that can cause explosions when fires occur. Industrial fires and emergency incidents endanger everyone and everything in the surrounding area. House fires, in contrast, can usually be contained, even if the house itself is unsalvageable.

Industrial fires can wreak havoc and cause a devastating degree of damage. They put everyone within the building and surrounding it at risk of death or injury from inhalation, burns, or building collapse. They also put those same people at risk of losing their jobs and livelihoods, given that industrial fires often result in the building’s temporary or even permanent closure. Moreover, when industrial fires occur, they can shut down surrounding businesses, interstates, schools, and, in some cases, air travel**.**

The presence of an industrial fire department is not just beneficial for lightening the load on local municipal fire departments. Organizations that employ industrial firefighters also reap indirect cultural benefits. The most important of these is an improved safety culture. To some degree, all fire departments invest in the safety of their own departments and the surrounding community. Organizations and or private industry that establish an industrial fire department or an ERT exhibit an increased return on investment for a few key reasons. First, this investment proves to local, state, and federal agencies in charge of emergency response that these organizations are capable of responsible and effective prioritization. Rather than relying on the local fire department to address all emergency incidents, they allocate resources responsibly to increase fire prevention efforts and protect human life.

Second, industrial firefighters are better equipped to respond to emergency incidents due to the fact industrial firefighters are trained on the hazards and processes located at the facility. This in and of itself improves the firefighters’ situational awareness and increases their ability to stay safe while addressing the fire. Spontaneous combustion and chemical explosions are responsible for a little more than two-thirds of all industrial fires with known causes. They both present distinct challenges to the people trying to combat them. Industrial firefighters know this and are better prepared to manage these specific incidents than the local fire department.

Third, by establishing a specially trained industrial fire department, the organization proves that it takes the safety of both its employees and community members equally seriously. They do not naively employ a one-size-fits-all approach to firefighting, nor do they overtax their local fire departments’ resources. Regardless of the increased upfront cost, they do what it takes to protect people, property, and the environment and support all stakeholders.

The Pfizer ERT serves the largest manufacturing site in the Pfizer network, in Kalamazoo, Michigan. Responding from one station and a roster of approximately 80 members, trained in fire suppression, hazmat, technical rescue, and EMS they proudly protect the 1,300-acre facility that manufactures active pharmaceutical ingredients (API), drug products (DP), and medical devices.

An industrial firefighter is a highly trained professional specializing in suppression and emergency response within industrial settings. Unlike municipal firefighters who respond to a broad range of residential and commercial fires, industrial firefighters focus on specific hazards associated with manufacturing plants, chemical facilities, refineries, power plants, and other industrial environments. These firefighters are experts in dealing with the unique challenges presented by the materials and processes used in these industries. Expecting a municipal fire department to manage large or small industrial incidents is unrealistic and dismissive. Organizations with a dedicated ERT have a considerable advantage over organizations that do not. Maintaining a state of emergency readiness in an environment where high hazards are located takes focus and attention. Dedicated industrial firefighters provide both.