This new 250-unit mixed income multi-family housing development includes three residential 5-story buildings, parking on the ground level, fitness room, swimming pool, clubhouse, playground, business office and a community/activities center with kitchen. Along with fire protection design, scope of work for this project included structural, mechanical, and electrical design. Scope of the fire protection design included active system, sprinkler, fire alarm, passive system, and life safety. The project was named by New Orleans Magazine as one of 2010’s “Best Architecture” recipients.

GSE provided fire protection design for mixing facility addition to existing manufacturing plant along with fire protection updates of interior and exterior flammable and combustible liquid storage tanks. Scope of work included tank protection, air aspirating detection, linear heat detection, fire alarm notification, foam water deluge, fire sprinkler, foam water monitor, fire hydrants, fire separation, fire proof testing and inspection.

Typically used for flammable and combustible liquids, foam fire suppression systems are comprised of three parts: foam concentrate, water, and air. These systems cool, separate, suppress, and smother the flame. GSE has many years of experience designing low expansion, high expansion, and deluge foam systems.

Mass notification systems are the most effective method to alert a large number of people to an emergency condition. These systems can be standalone or part of a fire alarm system. Systems can include large voice, SMS, email, computer, phone, and LED signage notification. Typical alerts include weather, fire, active shooter, process upset conditions, or various other life threatening events.

Chemical agents, including those classified as dry chemicals and wet chemicals, are used for a number of total flooding and local applications. Systems employing these agents have been used extensively to protect commercial cooking equipment in restaurants, but they are used for other applications as well. These agents are not considered to be “clean” agents and are not generally used for applications such as the protection of electronic equipment where “clean” agents are desirable.

Seismic bracing is implemented to assure the system remains stable during a seismic event. Cable bracing is the most economical method to install due to low material and installation costs. Rigid bracing, consists of steel rods, pipes, or channels, is more expensive but preferred by some owners. GSE’s structural engineers are experienced in designing bracing methods in accordance with the NFPA and IBC codes including UL-listed, and FM-approved solutions.

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Partnering with The Austin Company, GSE designed Airbus’s first assembly line in the Western Hemisphere. Along with fire protection design, GSE also provided structural, electrical, process and surveying. Fire Alarm design included detection, notification, HVAC smoke barrier control integration, and fire suppression supervision. Fire suppression included hose stations, wet pipe, dry pipe, fire modeling for sprinkler operation in high bay structure, and hazardous materials review and evaluation. This design was awarded Siemens Engineering Innovation Award. GSE retained a separate contract for delegated fire protection engineering which included hangar high expansion foam, fire sprinkler, and fixed foam water nozzles.

Airbus Military has enlisted GSE on two separate occasions to provide fire protection design. The preliminary project consisted of the addition of a 26,000 square foot hangar and office space. Exterior scope included water supply, underground utilities to building, and fire hydrants. Interior scope included fire sprinkler, high expansion foam, and hose stations for the hangar. Fire alarm system design consisted of releasing panels, detection and notification. Additional project consisted of an 8,000 square foot expansion to workshop and offices at component repair area. Scope included life safety design and modifications to sprinkler and alarm packages.

Airbus Final Assembly line
Mobile, AL

GSE provided fire code compliance evaluation of all structures on this site. Upon preliminary evaluation, scope for the project included updating all noncompliant fire protection and life safety measures. Updates to fire suppression and water supply corrections, new code applications, wet and dry sprinklers, fire main and hydrant layout, fire alarm systems and egress corrections were all deemed necessary updates to the facility in order to be code compliant.

BAE Systems
Mobile, AL

GSE provided clean agent, sprinkler, fire alarm systems and seismic support bracing for safety upgrades at several nuclear facilities operated by Duke Energy located in Georgia, South Carolina, North Carolina, Connecticut, Virginia, and Alabama. Built in response to new regulations by the US Nuclear Regulatory Commission in the aftermath of the Fukushima incident, the fire protection systems were installed in concrete domes designed to safely house vital equipment and remain protected against extreme weather, seismic, and blast conditions.
Responsible for over $6B in capital investments, GSE is a full-discipline engineering firm licensed in over 25 states. Founded in 1998, GSE has a wide variety of experience in industrial, commercial and government projects. Industrial clients include Airbus Final Assembly line, SSAB Steel Mill, and Mobile Container Terminal. GSE has also completed upgrades to NASA’s rocket assembly facility which is driving America’s new space launch system. Hundreds of commercial designs range from high rise condominiums to restaurants, academic and medical facilities. Founded on the principle of sustainable design, GSE has implemented a controlled growth model to maintain the highest level of quality and personal service.