STATEMENT OF CAPABILITIES

UNITED ARAB EMIRATES

Fire, Life Safety, Security + Risk Consulting Services

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Jensen Hughes + The United Arab Emirates

Providing life safety services to the Emirates for more than 30 years

For decades, Jensen Hughes has provided engineering services for thousands of projects throughout the UAE and Middle East. With a current staff of over 75 permanent employees in the region, we are recognized as an international consultancy, demonstrating both our technical expertise and ongoing commitment to the Emirates.

Although our history in the region began with Rolf Jensen & Associates (RJA), the 2006 opening of our first UAE branch office in Dubai ushered in a new era of partnership and commitment to the UAE. Our work continues today through Jensen Hughes’ Dubai and Abu Dhabi offices as well as our other locations in the Middle East, including Al Khobar and Riyadh (KSA) and Doha (Qatar). Our global presence also includes more than 90 offices and 1,400 staff worldwide.

Along with a history of successfully managing complex projects in the UAE, we offer the technical expertise, required certifications and licenses necessary for providing client-specific performance-based solutions. Certified as a House of Expertise (HoE) engineering firm by Dubai and Abu Dhabi Civil Defence, our dedicated engineers, scientists and consultants work together to help clients address the complexities of safety and security. We help our clients protect what matters and support their initiatives in meaningful and significant ways.

Jensen Hughes provides services and solutions in more than 100 countries to help meet the growing needs of our clients. With offices in nearly every corner of the world, and local staff on the ground in key regions, we’re anywhere you need us to be.
Our Services

Jensen Hughes has earned a reputation as a trusted expert among regulators, legislators, and inspectors. As members of the National Fire Protection Association (NFPA), the International Code Council (ICC) and other regulatory organizations, our engineers actively participate in the development of building and fire safety requirements.

ACCESSIBILITY CONSULTING

Laws, codes and standards that govern accessibility compliance can be complex and subject to broad interpretation. We help you understand the accessibility scoping and criteria applicable to your projects to achieve compliance and manage the risk of future claims. With more than 20 personnel specifically trained in accessibility consulting, we provide peer reviews of design plans for new construction and alterations, assessments of existing buildings, properties and public right-of-way and recommendations for barrier removal. We also assist clients with accessibility assessments like Americans with Disabilities (ADA) Transition Plans and Self Evaluations and deliver solutions for compliance which consider all applicable local and federal accessibility laws, codes and standards.

BUILDING + FIRE CODE CONSULTING

For 80+ years, we’ve partnered with architects, design teams, developers and owners to help navigate code compliance. Our multi-disciplined team, many of whom are active participants in committees related to building and fire code and standard development, get involved early in the design process. We identify code requirements, interpret code requirements and identify potential compliance issues that may need further discussion with the authority having jurisdiction. By performing periodic drawing reviews at key design stages, we can resolve issues and develop solutions to save time and cost in the design and construction phases, all while maintaining intended form and function. We also conduct third-party plan reviews to independently assess code compliance.

COMMISSIONING

Without the right commissioning, it is challenging to ensure that your fire alarm, fire suppression, smoke control and other fire protection and life safety systems will meet code-minimum, performance-based design and end-user requirements. Our systematic commissioning and integrated testing approach for fire protection and life safety systems helps you document, verify and sustain performance of the facility assets that are critical to your business.
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CONSTRUCTION SUPPORT SERVICES

We work seamlessly alongside the construction management team to make sure the fire, life safety, mechanical, electrical, structural (MES) and security systems installations are fully coordinated across all other disciplines. Our construction support services include Request for Information (RFI) support to address questions or unforeseen construction circumstances as they arise. When faced with unique jobsite conditions, we prepare Engineering Judgments (EJs) using a comparative analysis of the installed condition and recognized compliance conditions, such as those outlined in building code requirements and UL Tested designs.

DEVELOPING COMPREHENSIVE FIRE + LIFE SAFETY STANDARDS

Our firm has developed comprehensive fire and life safety standards for various clients who handle custom and border standards. These standards include detailed requirements pertaining to building design features including means of egress, fire detection and alarm/evacuation, fire suppression, smoke management, emergency power/lighting, way finding, and interior finish. Operations and maintenance standards include detailed requirements and guidance for the inspection, testing and maintenance of fire protection systems.

FIRE PERFORMANCE-BASED DESIGN (PBD) + EGRESS MODELLING

Our services range from the application of computer-based fire models and egress models to fire alarm and fire suppression systems design, smoke control system design, fire-structural analysis and other specialized applications. Advanced computer models analyze fire, smoke, pedestrian movement and structural consequence to develop performance-based fire protection and life safety solutions. PBD solutions can achieve compliance with the intent of prescriptive building codes for available safe egress time compared to the required safe egress time.
HEALTH + SAFETY

Our team of certified health and safety professionals bring extensive experience and best practices related to preparing, evaluating and implementing a thorough and informed set of health and safety policies, procedures, and corporate safety plans, focusing on human behavior, safety culture development and effective incident investigation techniques for when things don’t go as expected, as well as the experience to implement efficient auditing and assessment strategies across a range of facility types. Our expertise includes global management systems, risk assessment, incident investigation, safety culture development, fire protection, air quality, hazardous materials, safety engineering technology and process safety, our team brings specific expertise to support your safety journey across all sectors and disciplines.

FIRE RESEARCH, DEVELOPMENT + TESTING

Our engineers and scientists offer the industry’s most comprehensive services to test, assess and implement fire protection concepts and products. The broad spectrum of services performed in our in-house laboratories include new product roll-out, testing of unique fire protection strategies for special hazards and new processes or equipment designs that are not considered in current code provisions.

HAZARD ANALYSIS + RISK MANAGEMENT

Our fire hazard and risk analysis consultants provide fire and smoke modelling, process hazard analysis, risk management and regulatory compliance support, and a suite of risk-informed engineering and applications services, which include probabilistic risk assessment (PRA), human factors analysis, technology evaluation and selection, gap assessments, trade-off studies, emergency response planning and training.

SMOKE CONTROL ENGINEERING

Our team of scientists, engineers and technicians have earned us a reputation worldwide for solving smoke movement and smoke control system engineering problems with state-of-the-art scientific, engineering, and decision-analysis techniques and technologies. Our engineers are highly experienced and skilled in smoke control including movement analysis, control system design, movement testing and control system commissioning.

SECURITY DESIGN + CONSULTING

We are a leader in security consulting and design, and related safety disciplines. We perform a wide range of services for commercial, industrial, institutional, and government organizations worldwide. We provide comprehensive, high-quality solutions to building and personnel security challenges. Our staff is comprised of individuals who are Board certified in Security Management and have the experience to maintain the relationships to develop proactive solutions for your potential uncertainties.

EMERGENCY MANAGEMENT + RESPONSE PLANNING

When a crisis arises, minimizing the response time is critical and any delay can have significant and even fatal implications. In today’s business, political, environmental and social realities, it is imperative for every business or facility to plan for the worst-case scenario and be prepared for any emergency. Understanding the scope of emergency response and management as it relates to every individual facility is also critical as no two plans will be exactly alike. We are here to help you understand every facet of emergency management, from action plans to mass notification system design, to post-event response and collaborate on a plan that will be the right scale for your needs.
LIFE SAFETY SYSTEMS DESIGN + CONSULTING

Working with building owners, designers, and architects, we provide fire alarm, mass notification, smoke control, and other life safety system designs for new and existing facilities, including non-buildings such as outdoor campus installations. We determine system performance requirements, produce detailed design drawings and documents, perform manufacturer specific calculations and evaluate the installation of systems.

FORENSIC ENGINEERING + CONSULTING

We are globally recognized in the forensics field with expertise in all types of event and failure scenarios. We focus on delivering scientifically based analysis and meeting a broad range of clients’ investigative requirements. Our team can provide field investigation and supporting analysis in our state-of-the-art fire, chemical, dust and metallurgical laboratories as well as engineering simulation using modern fire, explosion, collision, CFD and FEA computer models.

TRAINING + LEARNING MANAGEMENT SYSTEMS (LMS)

For any professional involved in fire protection and life safety systems, training should include more than the basics. It should encompass knowledge of codes and standards, fire prevention and protection measures, and address electrical safety hazards.

Ranging from fire suppression systems safety and installation to electrical safety, smoke control and emergency communications, our online training platform, JH Academy (JHA) and Learning Management System (LMS) provides unmatched knowledge sharing in the industry.

Our experts are consistently involved in developing and delivering programs developed for the National Fire Protection Association (NFPA). We also provide continuing education credits for the International Association of Continued Education (IACET) and the American Institute of Architects (AIA).
Case Studies + Featured Projects
Case Study

Burj Khalifa
Dubai, UAE

Opportunity

The Burj Khalifa is known as the tallest building in the world, standing at 828 meters tall, holding multiple records since its completion in 2009 including:

+ Tallest building in the world
+ Tallest free-standing structure in the world
+ Most number of stories in the world
+ Highest occupied floor in the world
+ Highest outdoor observation deck in the world
+ Elevator with the longest travel distance in the world
+ Tallest service elevator in the world

Challenge

This building includes a 5-star hotel, restaurants, public assembly amenities, residential condominiums, corporate office suites, an observation level and below-grade parking. The total building area is 440,000 square meters.

Our Solution + Benefit to the Client

Our firm provided fire protection and life safety service for the project and were also retained to perform timed-egress analysis, elevator assisted egress analysis and an analysis of unprotected steel structural elements in the lower portion of the building.

We worked with the design team and the Dubai Civil Defence Authority throughout the design and construction process to coordinate the fire safety strategy and to provide guidance on the design of the building’s fire protection features.

We also developed the Crisis Response Plan which was used by building management to provide training to key management staff before building operations began, and is used during emergencies.
Case Study

Emaar Hospitality and Mall Properties
Dubai, UAE

Opportunity

As one of the world’s most valuable and admired real estate development companies, Emaar Properties has created iconic real estate assets in Dubai and has expanded to various markets not only in the EMEA region but also in the North America.

Challenge

Our relationship with Emaar Properties started in 2003 when we provided site-wide crisis response planning management for Burj Dubai.

Our Solution + Benefit to the Client

Since then, we have continued to serve Emaar Properties providing crises response plans for some of the world’s iconic buildings and architecture such as the Burj Khalifa, Dubai Mall, Dubai Marina Mall and the Gold and Diamond Park.

In 2008, we developed fire evacuation plans for seven (7) retail community centers in Dubai and health and safety program for the Dubai Mall. We created Emaar’s Crisis Management Standard, the framework requirements which will be utilized during the development of Crisis Management Plans for any type of property owned and operated by Emaar Properties. We also conducted fire and life safety audits for various retail centers.

Since 2015, our firm has been developing the Crowd Management and Life Safety Plan for Downtown Dubai during the celebration of the New Year’s Eve event and since 2016, our team has conducted fire and life safety audits and inspections for various Emaar hospitality and mall properties.

Downtown Dubai, UAE
Case Study

Khalifa Port Site Wide Fire Strategy
Abu Dhabi, UAE

Opportunity

The Abu Dhabi Ports Company (ADPC) engaged Jensen Hughes based on our House of Expertise (HoE) certification with Civil Defence to review and update the existing site-wide FLS Strategy and perform a project-wide Fire Risk Assessment (FRA) of all its facilities. The goal was to verify compliance with the UAE Fire Code and obtain approval of Abu Dhabi Civil Defence.

Challenge

The existing site wide FLS Strategy and Risk Assessment were created in 2010 as part of the original handover of the Port. Over the past 10 years, significant changes have occurred due to additions of tenants and general expansion of the port. Currently, the port has two new major expansions under construction that further require alignment with the existing site-wide FLS strategy and site-wide FRA.

Our Solution + Benefit to the Client

We reviewed all existing design documents, policies and procedures, existing FRA reports, FLS system testing and maintenance documents. We also visually identified hazards associated with various realistic fire scenarios and proposed mitigation actions to reduce fire effects. Due to the size and complexity of the site, we organized the offshore and onshore facilities into different zones to:

1. Simply the update of the existing facilities previously included in the FRA that have not changed.
2. Add facilities that were not previously included but are considered existing for the purpose of the update.
3. Add new facilities that are not yet built but are considered low or medium-risk areas (e.g., warehouses).
4. Add new facilities that are not yet built and are considered high-risk areas (e.g., Liquid Chemical Terminal)

The overall technical approach included review of the applicable prescriptive codes, qualitative risk analysis, evaluation of various fire protection systems, emergency management procedures and onsite fire brigade response.
Case Study

Dubai International Airport – Airport-wide Fire and Life Safety GAP Assessment

Dubai, UAE

Opportunity

The Dubai International Airport (DXB) is a world-class airport with terminals, concourses and associated support facilities designed and constructed in various phases over the past 20 years. Dubai Airports engaged Jensen Hughes to develop an airport-wide assessment of the buildings and facilities to determine compliance with the applicable codes at the time of design of the facilities.

Challenge

The challenge to completing the fire and life safety assessment was to review available documentation and visually assess the facility’s existing fire protection and life safety features. Based on the document reviews and site data collection, observable fire safety-related code deficiencies were identified and recommendations to rectify those deficiencies were provided.

Our Solution + Benefit to the Client

Jensen Hughes reviewed the available FLS strategy report, FLS strategy layouts and FLS systems as-built drawings. The site data collection consisted of visual observations from the floor level of the fire protection and life safety systems features.

The objective of the airport-wide assessment was to develop a holistic assessment of the buildings and facilities and determine compliance with the UAE Fire and Life Safety Code of Practice 2018 (UFC) and applicable NFPA standards at the time of design of the facilities. The GAP analysis and risk mitigation options to bring identified deficiencies to an acceptable level of safety and industry standard-of-care were provided.

Services Provided

+ Fire alarm, public address system assessment
+ Fire suppression systems assessment
+ Smoke management systems assessment
+ Fire and life safety strategy assessment
Additional Project Experience

HIGH RISE, COMMERCIAL REAL ESTATE + MIXED USE

**Dubai Marina Mall and The Address Hotel and Residences**
*Dubai, UAE*

*Fire and Life Safety Consulting, Emergency Response and Safety Management Plan Services*

The project encompassed the construction of a 32,000 square meter shopping mall, a 38-story hotel building comprising of 217 keys on 9 guestroom levels, 422 serviced apartments on 23 levels and 8 stories of food and beverage / leisure / back-of-house facilities on podium and basement levels. There is also an 8-story Gourmet Tower containing 5,450 square meters of restaurants and a 5-story hotel parking building with extensive banquet/function rooms above and a further 3 levels of parking below in the basement.

Our team provided security systems consulting and design services for the overall development of this project including a comprehensive security risk/threat assessment, development of a security concept plan, preparation and documentation of the design and tender documentation and inspection services during the construction and defects liability phases. We also developed a comprehensive emergency response and safety management plan for this mall.

**Masdar City Phase 4**
*Abu Dhabi, UAE*

*Master Fire and Life Safety Consulting Services*

Our firm served as the Fire Safety Engineer responsible for the preparation and development of the masterplan sitewide fire strategy report, review and preparation of the fire and life safety drawings and attending meetings with Masdar and other authorities having jurisdiction (AHJ).

**Plots D1 and D2 Forte Tower**
*Downtown Dubai, UAE*

*Fire and Life Safety Consulting Services*

The project is a super tall high-rise twin residential tower which also include residential amenities, restaurants, museums and retail spaces. Towers 1 and 2 are 74 stories and 57 stories tall respectively.

We were retained as the Fire and Life Safety Consultant responsible for the review of the design architectural drawings and documents, development of fire safety strategies and Client’s representation during meetings with Dubai Civil Defence. As part of our scope, our team also conducted a study where we utilized the network airflow model using CONTAM.
Dubai Mall
Dubai, UAE

Fire and Life Safety Consulting, Crisis Response Plan Services

We provided and developed a comprehensive Crisis Response Plan for the Dubai Mall, slated to be the world’s largest mall with approximately 12.1 million square feet of total area and over 9 million square feet of retail space. The Dubai Mall also includes amenities including an aquarium (world’s largest indoor), cinema, gold souk (world’s largest), medical center and an Olympic-sized ice-skating rink.

The Crisis Response Plan focused on the development of crisis response procedures for various types of crises that could occur including human, building system, terrorism and weather related crises. The Crisis Response Plan addressed each of the crisis types listed above by providing preventative, crisis response and training and maintenance procedures.

Retail and Mall Projects
Various Locations, UAE

Fire and Life Safety Consulting and CFD Smoke Control Analysis Services

We have been involved in several retail centers and mall projects in the UAE where we were retained as the Fire Engineering Consultant responsible for fire protection/life safety report and drawings preparation, fire/life safety plan reviews, car park CFD smoke control fire rational analysis and attending meetings with the AHJ.

Projects have included the following:
+ Al Jazira Mall, Abu Dhabi, UAE
+ Al Zahia Shopping Mall, Sharjah, UAE
+ Sahara Mall, Sharjah, UAE
+ Mall of the Emirates, Dubai, UAE
+ Al Wahda Mall, Abu Dhabi, UAE
+ Burjuman Mall, Dubai, UAE

Bawabat Al Sharq
Phase 3
Abu Dhabi, UAE

Master Plan Fire and Life Safety Consulting

We were retained by the Client as the Fire Safety Engineer responsible for the masterplan drawings and documents review, Masterplan Sitewide Fire Strategy Report preparation and AHJ representation.
Atlantis Management and Staff Accommodation
Dubai, UAE

*Emergency Evacuation/Response Plan*

Our firm was retained by the Client to develop a comprehensive Emergency Evacuation/Response Plan for four (4) high-rise residential buildings in Jumeirah Village. These residential buildings will house the Atlantis Palm Management and Staff. The comprehensive Emergency Evacuation/Response Plans allow Nakheel and Atlantis management to effectively maintain a safe and secure environment for all guests, residents and visitors.

Gold and Diamond Park
Dubai, UAE

*Crisis Response Plan*

We worked closely with Emaar and their consultants to develop and refine the Crisis Response Plan that approximately utilizes the building features and emergency systems. We developed response guidelines to effectively mitigate an emergency that could affect the Gold and Diamond Park which consists of seven (7) three-story (ground plus two) buildings and a retail center. It includes retail tenant space, manufacturing space, office space, food court, prayer room and a visitor's center.

Abu Dhabi Commercial Properties
Abu Dhabi, UAE

*Fire Safety Audits*

Our firm was retained by ADCP to conduct a fire safety audit of 2,500 buildings throughout the Emirate of Abu Dhabi. The audit was performed using Apple iPads containing audit templates that automatically transmitted to a central database. These audits focused on fifteen (15) areas of fire and life safety within each building, including active and passive fire protection features and systems.

TECOM Group Building Facades
Various Locations, UAE

*Fire Risk Assessment and Façade Review Services*

We were retained by TECOM Group Investments as the Fire Engineering Consultant for their 44 buildings located in Dubai Internet City, Dubai Media City, Dubai Studio City, Dubai Production City and Dubai Science Park. Our team carried out site observation inspections and performed desktop studies of the ACP cladding material submittal and design drawings and documents. Part of our scope included the assessment of the areas of the ACP cladding, assessment of the risks and providing recommendations to reduce the risk of external fire and fire spread.
HOSPITALITY

Al Raha Beach Development
Abu Dhabi, UAE

Master Plan Fire and Life Safety Consulting Services
Our team served as the Fire Engineering Consultant responsible for preparation of the master plan fire strategy for the Al Raha Beach Development.

The project is a waterfront development along the sheltered coastline of Abu Dhabi which occupies over 6 million square meters with 11 kilometers of coastline. It consists of an expansive, connected four-story podium with several buildings of varying heights on levels above the topmost plane in five (5) different regions: Garden Terrace, Oasis Lakefront, Water Garden Terrace and the Town Center.

Palm Jumeirah Pointe Buildings
Dubai, UAE

Fire and Life Safety Consulting Services
The Palm Jumeirah measures approximately 5 kilometers in length and 5 kilometers in width and is a serene retreat for living, leisure and relaxation. It consists of approximately 7,000 apartments and 1,800 villas and townhouses and the Atlantis resort on The Palm, Jumeirah.

We provided fire master plan advice regarding US fire codes and the National Fire Protection Association (NFPA 101) Life Safety Code. The project scope included apartments, villas and townhouses.

Al Habtoor City
Dubai, UAE

Fire and Life Safety Consulting Services
We provided fire protection code consulting services for this 5-star mixed-use hotel development which comprises of three hotels and three high-rise residential towers. The residential towers are planned to include two 75-story residential towers and a third 52-story tower with 1,460 apartment units, alongside 11 penthouses. Al Habtoor City will also have an 1,100-seat theatre, a tennis academy and clubhouse and a parking garage to hold 2,290 cars. It has an area of 390,000 square meters and the theatre features a hydraulic central stage, water features and movable floors which can be compared to theatres in Las Vegas.
HEALTHCARE

Cleveland Clinic

*Abu Dhabi, UAE*

**Fire Protection and Life Safety Code Consulting, CFD Analysis, Smoke Control Design**

Our team served as the project House of Expertise Fire Engineer responsible for fire/life safety engineering and design services for this state-of-the-art facility.

The Cleveland Clinic and Mubadala Healthcare teamed to bring a new 360-bed hospital development to Abu Dhabi and the Middle Eastern region. The facility encompasses a total project area of approximately 163,710 square meters.

The integrated clinic-hospital design included 240 exam rooms with the ability to cater to the needs of local patients as well as those traveling abroad for treatment. A conference center with a 300-seat auditorium and breakout meeting rooms, as well as a food service capability were provided to complement the facility services.

The unique extension of the United States-based hospital was supported by a new 4,500 square meter backup utility plant and an estimated 3,800-stall car park located 3 levels under the landscaped plaza.

Other services included NFPA 101, Life Safety Code, consulting; computational fire modelling analysis; smoke control system design and consulting; and code authorities negotiations.

Al Maktoum Hospital

*Dubai, UAE*

**Code Consulting Services**

The Al Maktoum Hospital is a state-of-the-art 400 bed health care and sophisticated accident and emergency hospital capable of providing immediate care for minor to high-level trauma accidents and emergencies. We provided schematic design and design development building code compliance reports which summarized the major aspects of the National Fire Protection Association (NFPA) 101, "Life Safety Code" and regional codes relative to the 17,200 square meter facility.
Al Ain Hospital  
Al Ain, UAE

*Fire Protection and Life Safety Consulting Services*

Our team has established a long and storied history with Al Ain Hospital and has grown our responsibilities and workload as the project has progressed. During the project’s construction, our team served as the specialist consultant responsible for review of the overall master plan design documents for the new and existing buildings.

The whole project became a subject for design modifications including design changes in the pharmacies and on-call rooms within the new hospital building; the new locations for the logistic center and the morgue which also required our team to prepare the fire safety strategy and drawings; and the demolition of some existing buildings and introduction of some other services which caused the blockage of some existing roads and introduction of new alternative temporary roads.

As part of our scope, our team reviewed the fire and life safety design documents including fire and life safety strategy reports, passive and active fire and life strategy system layouts. We conducted on-site visual observation and verification of various fire and life safety systems. Additionally, we provided input on design parameters for the CFD analysis of the entire hospital atria, reviewed the results of the model and prepared a CFD report.

Sheikh Shakbout Medical City (SSMC)  
Abu Dhabi, UAE

*Fire Protection and Life Safety Code Consulting, System Auditing and GAP Analysis*

Our firm was retained as part of team of specialist consultants to provide a desktop review of the design of the Sheik Shakbout Medical City (SSMC) as well as a review of the third-party testing and commissioning reports. SSMC is one of the largest hospitals in the Emirate. It has a total of 732 beds, two (2) presidential suites and 36 VIP suites, and it became a distinguished center for trauma and Gordian incidents treatment. It is also considered one of the major medical facilities specialized in intensive care in the region.

As part of our scope, our team reviewed the fire and life safety design documents including fire and life safety strategy reports, passive and active fire and life strategy system layouts. We also conducted on-site visual observation and verification of various fire and life safety systems, and prepared/presented the fire and life safety GAP analysis.
MANUFACTURING

National Medical Solutions Pharmaceutical Plant
Abu Dhabi, UAE

Fire Safety Consulting

Our team reviewed the fire protection design for the automatic fire sprinkler system and fire alarm system to protect the facility. The designs were reviewed for conformance with NFPA 13 “Standard for the Installation of Sprinkler Systems” 2007 Edition, NFPA 72 “Standard for the Installation of Fire Alarm Systems” 2007 Edition and the appropriate Abu Dhabi Civil Defence requirements.

DATA CENTER

Al Khazna Data Centers
Abu Dhabi, UAE

Code Consulting and Regulatory Compliance

Our firm conducted a qualitative fire risk assessment of the two data centers located in Dubai and Abu Dhabi. Both projects’ sites included two-story data center buildings containing the main IT/server rooms, a two-story utility building containing primary mechanical equipment and, a two-story support building with loading dock and a guard house building.

Part of our scope included the technical review and evaluation of the existing façade, site survey and code consulting.

MARITIME

Al-Hamriya Port
Dubai, UAE

Fire and Life Safety Consulting Services

Al-Hamriya Port is a fishing harbor development which consists of a five-star hotel, leasable offices, four-star hotel and related amenities, restaurants, a souk, health club, gourmet restaurant, entertainment center, art gallery, flagship stores, hypermarket with flagship store, nautical club and leisure marina, as well as a working fishing port with a dock, marina center, workers’ housing, marina observation platform and boat yard. The site was designed to segregate the housing and fishing operation facilities from the retail and tourist portion of the harbor.

We provided a building code and fire protection review of the Master Site Plan for the port. The review consisted of schematic and design drawing reviews, which were detailed in the building code compliance reports. We also focused on preserving the way of life, taking into consideration prayer rooms and male/female accessibility. The project was challenged with very tight and almost unachievable time constraints. The complexity of this project made it very interesting and was focused on working with three building code standards; NFPA 101, NFPA 5000 as well as the JAFZA construction requirements.
CULTURAL, ENTERTAINMENT + ASSEMBLY

The Dubai Opera District
_Downtown Dubai, UAE_

**Fire and Life Safety Consulting**

Our firm served as the fire engineering specialist consultant of the Dubai Opera District, a cultural destination set to promote the arts, culture and events scene in the Emirate.

We assisted the Client during various stages of the project by reviewing all fire and life safety related drawings and documents, developing fire safety strategies, attending meetings with the AHJ and assisting the Client in obtaining all the necessary approvals for the project.

As part of our scope, our team also prepared fire safety drawings for the modifications of the existing boulevard car park and opera district car park.

_Guggenheim Museum_
_Abu Dhabi, UAE_

**Third-Party Safety Review and Fire Protection Consulting Services**

Our firm provided a third-party safety review and fire protection consulting services for this 450,000 square foot museum. This museum is the largest Guggenheim Museum in the world and houses its own major modern and contemporary art collection and present special exhibitions that include works from the Guggenheim foundation's extensive collection. This museum focuses on Middle Eastern contemporary art.

_Louvre Museum_
_Abu Dhabi, UAE_

**Third-Party Life Safety Consulting Services**

We provided third-party life safety consulting services for this 260,000-square-foot universal museum, located in the Arab world. The Louvre Abu Dhabi displays art, manuscripts and objects of historical, cultural and sociological significance. Spanning millennia, the items on display originated from societies and cultures all over the world, transcending geography, nationality and history.

Our team served as the House of Expertise (HoE) Consultant responsible for the review of designs and reports, conducting site inspection and visitation, testing and commissioning all fire and life safety systems. We also developed the fire strategy and represented/assisted the client during meetings with the authority having jurisdiction to obtain the necessary approval for the project.
**Ferrari World**  
*Abu Dhabi, UAE*

*Egress and Fire Modelling Study*

We provided egress and fire modelling to the renovation of the central park situated under 200,000 square meters roof, making it the largest indoor amusement park in the world. Ferrari World is the first Ferrari-themed Park and it officially opened on 4 November 2010. The project consists of the addition and replacement of the theme park attractions.

Some of the attractions added are Flying Access Coaster, Junior Training Camp, Benno Saves the Day, Indoor Coaster, Italian Village, Karting Academy and Vortex Coaster.

Our team provided fire protection consulting services that included:

- Fire Protection/Life Safety Report
- Fire/Life Safety plan reviews
- Computer Fire Modelling for Smoke Management in rides
- Computational Fluid Analysis (CFD) using Fire Dynamic Simulator.

**Al Jahili Tower**  
*Al Ain, UAE*

*Fire and Life Safety Consulting Services*

The Jahili Fort is one of the oldest buildings in Al Ain and it consists of three parts: mainly the tower and the forts at the back of the complex. The “Al Jahili Tower” was constructed in the 19th century which makes it unique to accommodate new systems of fire and life safety while minimizing the risk associated for such a historical icon.

Our firm provided fire and life safety consulting services for the restoration works of the existing fort.

The restoration project was implemented by the Abu Dhabi Authority for Culture and Heritage. We developed a unique fire and life safety strategy for the project including recommendations to enhance the fire and life safety of the fort and equivalent provisions in areas where a code compliant approach was not possible to achieve due to the nature of the fort.
**Qasr Al Muwaiji Gulf Research and Exhibition Centre**  
*Al Ain, UAE*

**Fire Protection and Life Safety Consulting Services**

Al Muwaiji Fort is located at south of Al Muwaiji Oasis, on the farm of the late Sheikh Zayed and it is composed of a large square building surrounded by high walls. The Centre include permanent and temporary exhibition space, a library, reading rooms, classrooms, archives and offices, a multi-use auditorium, café, kitchen and a multi-use exterior assembly space.

Our firm was retained as the fire engineering consultant responsible for the preparation of the design of the fire alarm and fire suppression systems of the facility. Our team also assisted the client by attending meetings with Al Ain Civil Defence and overseeing during the site construction period services for fire and life safety system installation.

**Sky Venture**  
*Abu Dhabi, UAE*

**Fire and Life Safety and Smoke Control CFD analysis**

Sky Venture is an entertainment and leisure project near Ferrari World. The building occupies an approximate area of 2,150 square meters with a height of approximately 50 meters. The facility serves two main amusement activities: one of the highest artificial rock climbing of irregular surface and an indoor skydiving area in addition to providing F&B services and other activities such as indoor sky diving.

Our team prepared the fire strategy along with the smoke control CFD studies and evacuation analysis by validating tenability acceptance criteria in accordance with NFPA 92 and other guidelines.

**Dubai Parks and Resort**  
*Dubai, UAE*

**Third-Party Life Safety Consulting Services**

We were engaged by Dubai Parks and Resort (DPR) as fire and life safety consultant to review and evaluate the existing firefighting system of the largest multi-themed leisure and entertainment destination in the Middle East. It comprises of three (3) separate theme parks and one (1) water park. Resort wide means the common areas with infrastructure system and utilities services to Motiongate Dubai, Legoland Dubai, Legoland Water Park, Bollywood Park Dubai and Lapita Hotel and Resort.

Our team was responsible for the review of all the firefighting network design and materials; and testing and commissioning review of firefighting network, fire pumps, fire water main leakage, jockey and fire pumps resizing.
**EDUCATION**

**GEMS Royal Academy School**  
*Abu Dhabi, UAE*

*Fire and Life Safety Consulting*

The GEMS Royal Academy School is a highly functional educational facility that contains classrooms and amenities within a single building. The facility occupies four (4) floors (ground plus three levels) with a basement. The building footprint is approximately 14,500 square meters with the highest floor located 12.3 meters above grade and the main roof located 16.2 meters above grade. The highest portion of the roof is the top of the theatre fly tower which is 20.2 meters above grade.

The facility has two classroom blocks which are distinct areas environmentally separated from the amenity areas. The site also includes a utility plant housing the substation, generator, fire pumps and similar utilities. The utility plant is approximately 1,100 square meters in area and is a single-story building.

We served as the fire engineering consultant responsible for fire protection and life safety review. Other services provided to client included: fire protection/life safety report, fire/life safety plan reviews, meetings with the Dubai Civil Defence, means of egress, corridor, atrium and theatre smoke control fire rational analysis.

**Emirates College of Technology,**  
*Abu Dhabi, UAE*

*Third-Party Peer Review*

The Emirates College of Technology is a campus building located in Masdar City, Abu Dhabi UAE. It consists of two (2) basement floors, two (2) podium floors, three (3) upper floors and a roof with an approximate area of 55,000 square meters for parking and 40,000 square meters for the academic and support areas.

Jensen Hughes was retained by the Client as the fire and life safety engineering consultant responsible for the review of the architectural design drawings and fire safety design drawings preparation and development of the fire strategy report and fire safety drawings.

We assisted the Client during all phases of the project, attended meetings with the Authorities Having Jurisdiction and provided general fire and life safety consulting services.

**Sheikh Zayed Desert Learning Centre**  
*Al Ain, UAE*

*Fire Protection Consulting Services*

The project is a major landmark in Al Ain and follows the Estidama high environmental standards with a combination of active and passive energy efficient systems. The project consisted of eight levels for exhibition purposes that included theatre, exhibition spaces, workshops, meeting rooms, prayer rooms, offices, lounges and plant rooms. We served as the fire engineering consultant responsible for the review of the smoke control requirements, preparation of the fire safety strategy report which covered the smoke control aspects based on NFPA standards and local requirements.
AVIATION AND TRANSPORTATION

Route 2020 Metro Rail  
*House of Expertise (HoE) Third Party Review*

Our firm was retained by the Client as the project’s House of Expertise Consultant responsible for the review of the wide fire and life safety strategy report and fire protection drawings for the tunnels and shafts, underground stations, elevated stations, interchange station and EXPO station.

![Expo 2020 Metro Station, Dubai, UAE](https://upload.wikimedia.org/wikipedia/commons/thumb/p/p6/Expo_2020_Metro_Station_Dubai_UAE_Wajahatmr.jpg/1280px-Expo_2020_Metro_Station_Dubai_UAE_Wajahatmr.jpg)

Dubai Metro, Red and Green Lines  
*Early Design Input*

Our team provided early design input for the Dubai Metro, focusing on development of fire and life safety criteria and drawing review. This involved preparation of fire safety principles and guidelines for stations and tunnels for agreement with the Fire Safety Committee, Civil Defence, Roads and Transport Authority and the System Operator.

We prepared station plans, collaborated with the architectural team to define conceptual station configurations, reviewed design drawings for compliance with NFPA 130, 101 and the Fire Safety Guidelines, including drawings of all underground stations, special stations, tunnels, depots, car parks and viaducts. Developed a smoke control strategy using CFD-based fire modelling.

![Dubai Metro Station, UAE](https://upload.wikimedia.org/wikipedia/commons/thumb/3/3e/Dubai_Metro_Station_UAE_Wajahatmr.jpg/1280px-Dubai_Metro_Station_UAE_Wajahatmr.jpg)

Etihad Rail Network  
*Master Fire and Life Safety Consulting*

Our firm developed the preliminary fire and life safety engineering basis of design and supported the Client’s project team in the preparation of the tender documentation.

The Etihad Rail Network will link KSA with the UAE central and northern Emirates as well as connecting Al Ain and extending further down to Oman as part of the GCC Railway project. The project comprises a series of freight facilities, O&Ms and tunnels, viaducts and underpasses. It is also future proofed for passenger operations.
Al Maktoum International Airport
Dubai, UAE

*Fire Protection Engineering*

Al Maktoum International Airport is being designed to accommodate approximately 400 aircraft gates, distributed around four concourses served by two terminal buildings. Phase 1 includes construction of two concourses and one terminal building.

We provided engineering consulting, plan review and construction period inspection services for Phase 1. Scope of services included third-party review of fire/life safety system design submittals; Concourse and Terminal occupant evacuation modelling; construction inspections and acceptance testing witnessing; coordination of fire/life safety system compliance for system integration; and liaison with Civil Défense to assist in the approval of design documentation.
Firm Overview
We know that nothing is more important to you than the safety and security of what matters most in your world. That’s why we’ve been protecting lives, property and reputation since 1939.

We are a global team of engineers, scientists and consultants dedicated to carrying on a rich legacy of our founders who believed in advancing the science of safety to protect what matters most through technical excellence. Our roots were planted 80 years ago, and we have remained committed to earning our clients’ trust when it comes to addressing the complexities of safety and security.

We have since expanded to operate in more than 100 countries to help meet the growing needs of our clients. We have also over the years, and through additions of specialized, industry-leading firms, continued to build on our core strengths in code consulting, fire protection engineering and risk analysis to now expand our expertise in areas such as forensics, emergency management and security to better support the spectrum of our clients’ priorities from risk mitigation to compliance and resilience.

**Expertise from A to Z**

Our broad range of expertise helps clients maintain safety, minimize risk and save time and money in the design, management and construction of buildings, systems and solutions to protect against the cost of potential losses. We also ensure that our solutions easily fit into our clients’ business objectives, culture and priorities. Having completed tens of thousands of projects worldwide on behalf of our clients, we can create, evaluate, test, assess and implement solutions for a wide range of safety, security and risk-related challenges. From airports, nuclear power plants and museums to laboratories, historic buildings, oil refineries and some of the world’s tallest buildings, we offer comprehensive services.

**Our Expertise**

- Fire and Building Safety
- Risk and Hazards
- Emergency Management
- Security Risk Consulting
- Forensics

**Our Global Reach**

- 90+ Offices Worldwide
- 40,000+ Global Projects
- 1400+ Employees
Making Your World Safe, Secure + Resilient

We have dedicated our mission to driving our industry forward through technology, knowledge, and best-in-class research and development capabilities to provide the very best solutions for our clients. Our strength lies in the linkage of data and expertise across the life cycle, from failure analysis to modelling, enabling us to bring forward innovative and compliant solutions that preserve architectural and design vision as well as define the critical variables for risk analysis. This shapes our code, design and commissioning approach, and because we have many team members who are deeply engaged and involved in developing regulations and codes, we are consistently at the forefront of change in setting the standards.

EXTENDING THE CULTURE OF SAFE + COMPLIANT OUTCOMES

To share the knowledge of our engineers, research scientists and code experts, we created the JH Academy (JHA) to offer online safety training for industry peers, partners and clients. Additionally, JHA can serve as part of a new hire onboarding process using our proprietary learning management system. Benefits include:

+ Training partner of the Automatic Fire Alarm Association (AFAA)
+ Instructors for National Fire Protection Association (NFPA) programs
+ JHA courses are accredited by The International Association for Continuing Education and Training (IACET)
Company History

OUR PAST, PRESENT + FUTURE

Our clients benefit from our years of experience in the fire protection engineering, building and life safety code consulting, and security consulting and design services. Through a series of mergers and acquisitions, we have expanded its geographic footprint and its service offerings to include a broad range of specialty engineering services. With this growth, we have increased our technical expertise and the resources available to provide our clients with solutions that encompass fire protection, life safety, security and related disciplines. Our services include fire protection and forensic engineering, risk analysis and fire modelling, system design, code consulting, commissioning, research and testing and project management solutions.

Today, we offer a comprehensive, integrated set of engineering and risk management services for every building type and on every continent. We collaborate with building owners, architects, developers and construction teams, real estate property and facility managers, and institutions and government agencies to build long-term relationships based on a proven approach to risk prevention and reduction.

We measure success by the positive response and repeat business of our clients — and ultimately by the performance of our projects in protecting people and property. We have dedicated our mission to driving our industry forward through technology, knowledge, and best-in-class research and development capabilities to provide the very best solutions for our clients. Our strength lies in the linkage of data and expertise across the life cycle, from failure analysis to modelling, enabling us to bring forward innovative and compliant solutions that preserve architectural and design vision as well as define the critical variables for risk analysis. This shapes our code, design and commissioning approach, and because we have many team members who are deeply engaged and involved in developing regulations and codes, we are consistently at the forefront of change in setting the standards.

We re-branded in January 2015 after the historic merger of two of the most experienced and respected specialty fire and life safety engineering and consulting firms, Hughes Associates (Hughes), founded in 1980, and Rolf Jensen & Associates (RJA), founded in 1969. Both Hughes and RJA exhibited the highest level of technical excellence, offered proven on-time and on-budget performance on projects, and developed long-term client relationships. The merger brought together Hughes’ strengths in areas such as research, testing, forensic engineering and risk analysis, and the complementary strengths of RJA in the areas of code consulting, performance-based design, and security system design.