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Jensen Hughes + Qatar

Providing life safety services to Qatar for almost 20 years

For decades, Jensen Hughes has provided engineering services for thousands of projects throughout Qatar and the Middle East, demonstrating both the firm’s technical expertise and ongoing commitment. Qatar is a growing and exciting market for Jensen Hughes. We continue to actively build our local team of qualified engineers while increasing our ability to offer comprehensive services that meet the needs of our Qatar clients and projects.

Although our history in the region began with Rolf Jensen & Associates (RJA), followed by the 2006 opening of our first UAE branch office in Dubai (Schirmer Safety Consultants), the 2020 opening of our Qatar entity (Jensen Hughes Consulting WLL) and the 2022 opening of our Doha office ushered in a new era of partnership and commitment to Qatar.

Led by Niall Keogh, (MSc, BSc, P. Grad. DIP, CEng MIEI, CFPS), Country Director for Qatar, our team of local and global experts have worked on hundreds of projects with numerous clients, including Hamad Medical Corporation, Qatar Foundation, Qatar Petroleum, Qatargas, Marriott International, Hyatt International and HBK Contracting. We have also worked with various architecture and engineering (AEC) clients across all industries including healthcare, government, assembly, commercial and mixed-use real estate, aviation, hospitality, oil and gas, industrial and petrochemical.

Along with a history of successfully managing complex projects in Qatar, we offer the technical expertise, required certifications and licenses necessary for providing client-specific, performance-based solutions. Our Doha-based team is expertly proficient in the correct application of NFPA and ICC Codes and Standards as well as the Qatar Civil Defence Department’s (QCDD) own published Code – namely QCDD Fire Safety Guidelines (2015) including the General Annex. Our diverse team of experts have assisted clients with QCDD approval and inspection processes on many significant projects such as World Cup stadiums, metro lines (including stations), landmark buildings and other infrastructure developments.

Moreover, our dedicated engineers, scientists, and consultants work together to 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 Act (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.
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, wayfinding, and interior finish. Operations and maintenance standards include detailed requirements and guidance for the inspection, testing and maintenance of fire protection systems.

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.

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.
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

ABH District
Doha, Qatar


Opportunity

Originally known as Barwa Financial District and Qatar Petroleum Headquarters, this mega project started in 2009 and was completed in 2016, transitioning to Qatar Petroleum (QP) in 2015. Uniquely designed and iconic, this project created a new business community within Doha, and a new landmark for the city symbolizing modern Qatar while integrating traditional influences and materials with the modern structure.

Challenge

The project consisted of 10 high-rise buildings that included 9 high-rise towers dedicated to office use. These towers all share a common podium and common parking structure. It also contains mercantile, assembly occupancies such as restaurants, banquet and exhibition halls, and a Mosque. The mixed-use facility had an estimated gross built-up area of approximately 710,180 square meters.

Our Solution + Benefit to the Client

Our team provided fire protection master planning, building code analysis, Computational Fluid Dynamic fire/smoke modelling and security risk and vulnerability consulting, including a regional threat assessment. We also coordinated the perimeter protection program for the ABH District site, including planning for active and passive vehicle barriers.

Our other responsibilities included consulting for VIP security, guests screening, and delivery and parking security operations. Jensen Hughes provided security design services to include a TCP/IP-based video surveillance system, electronic access control, and an advanced monitoring command center.
Case Study

Hamad Medical Corporation
Doha, Qatar

Opportunity

Hamad Medical Corporation (HMC) is the main healthcare provider for the state of Qatar – delivering at least 80% of secondary and tertiary care to the population in Qatar. Employing around 19,000 staff, HMC is a government owned corporation established in 1979. HMC consists of a network of many hospitals, a national ambulance service and home healthcare services on which a major proportion of Qatar’s population – citizens, expatriate workers and their dependents, visitors and tourists – rely for medical care including emergency care. HMC is the first healthcare provider in the region to have its hospitals reaccredited by the Joint Commission International.

Challenge

HMC’s hospitals are grouped into three areas – the Tertiary Hospitals Group, the Continuing Care Hospital Group and the General Hospitals Group. Hospitals included in the Tertiary Group are Hamad General Hospital, Women’s Hospital, Heart Hospital and National Centre for Cancer Care and Research (NCCCR); Hospital under the Continuing Care Hospital Group is the Rumailah Hospital; and Under General Hospitals Group are Al Wakra Hospital, Al Khor Hospital and The Cuban Hospital. In addition to the above, HMC operates/owns a total of 108 buildings, both clinical and non-clinical across five (5) separate campuses with planned openings of an additional six (6) hospitals.

Our Solution + Benefit to the Client

We were the fire consultant experts hired by the Client responsible for providing engineering and technical support to the HMC Life Safety Management Team for routine inspection of fire and life safety conditions/systems and implementation of corrective actions to enhance and maintain the fire and life safety conditions of the hospitals. We also performed plan reviews during the design stages of new hospitals and non-hospital buildings, and the existing facilities owned/operated by HMC that alter or add-on to the existing facility. Part of our scope was to review the fire and life safety aspects of the contractors’ submittals and to conduct inspections of contractors’ work. We were also assigned to develop and maintain HMC’s Fire and Life Safety Programs.
Case Study

Lusail World Cup Stadium

Lusail, Qatar

Services Provided

+ Heat transfer modelling
+ Structural impact assessment
+ Codes and standards review
+ Working with Authority Having Jurisdiction (AHJ)

Structural Fire Engineering Analysis

Opportunity

Lusail Stadium is the FIFA 2022 World Cup final football stadium with a seating capacity of 80,000. The project required a bespoke fire and life safety compliance assessment and evaluation of fire resistance rating performance of the structural tension ring, radial cables and technical area walkways of the roof build-up.

Challenge

The project required several approvals from Qatar Civil Defence Department (QCDD), the end client’s third party project management consultant and other relevant municipal agencies. In addition, the analysis was conducted drawing from six (6) current sets of codes and standards including:

+ NFPA 5000, Building Construction and Safety Code
+ ASCE/SEI 7-05, Minimum Design Loads for Buildings and Other Structures
+ Other relevant NFPA Codes and Standards

Our Solution + Benefit to the Client

Our team of experts provided detailed fire safety consulting services with their in-depth knowledge and experience in structural fire protection and complex modelling tools. This effort included the review of the as-built design and the existing design reports, attending a kick-off meeting, finite element analysis (for 3D heat conduction) covering three scenarios, a structural impact assessment, reporting to stakeholders and working with the AHJ.
Additional Project Experience

HIGH RISE, MIXED-USE + COMMERCIAL REAL ESTATE

Lusail Marina District
Lusail, Qatar

*Fire and Life Safety Consulting Services*

Lusail Marina District is a mixed-use development with over 100 plots incorporating commercial spaces, residential dwelling units, assembly spaces, hotels and malls. The building heights range from 18 to 40 stories.

We assisted the Client in establishing fire protection and life safety guidelines for all the district's plots. The Design Team’s objective was to maintain the levels of fire and life safety consistent with internationally recognized fire safety standards.

Villagio Mall
Doha, Qatar

*Fire Investigation and Litigation Support*

Our firm was retained by Qatari Real Estate and Commercial Projects Company to review fire protection and life safety systems and features of the mall and to determine the cause of fire and smoke propagation throughout various areas of the mall on 28 May 2012.

We surveyed areas of the mall directly impacted by fire, heat and smoke and evaluated the probable operation of fire and life safety systems in relation to the fire events. Other litigation support and fire and life safety services provided to Client included preparation of court exhibits, translation of expert report and expert testimony in Doha court and smoke management system analysis and recommendations.

Qatar Intercontinental Tower
Doha, Qatar

*Fire Life Safety, Threat Assessment and Emergency Response Plan*

We provided fire and life safety consulting services for the 57-story residential tower that includes a five-star Intercontinental Hotel and serviced apartments that have 350 guestrooms and 190 apartment units.

Part of our scope of services included life safety drawing reviews, provision of fire strategy documentation reports and negotiations with Qatar Civil Defence. Additionally, our team also conducted a threat assessment of the property as well as development of an emergency response plan for the facility.
**Mall of Qatar**  
**Doha, Qatar**

*Fire Investigation Services*

The Mall of Qatar building consists of a basement, ground floor and two (2) mezzanine floors with a total built up area of approximately 500,000 square meters. We were retained by the Client to perform a site visit and surveyed areas of the mall to review the circumstances surrounding the fire, to determine the extent of fire based upon available documentation and site investigations, to review the structural members impacted by the fire in conjunction the Client’s structural engineering team and to assess the structural repair plan.

**Sumaysimah Island Palace**  
**Doha, Qatar**

*Fire and Life Safety Consulting Services*

The project is located on the east coast of Qatar slightly north of Doha and consists of an island palace connected to a land-based guard house and arrival courtyard. The Courtyard Guard House accessed via the mainland arrival road consists of the various buildings/structures such as main arrival courtyard from the mainland area, guard room, staff bedroom and majlis, main kitchen and staff dining room, laundry, refuse, maintenance and MEP areas, visitor and staff parking and open yards and golf cart charging facility. The Courtyard Guard House leads to the Island Palace through a twin lane, paved motorway bridge. The Island Palace has two (2) distinct areas, the Public and the Private Zones.

Our team provided Fire Protection/ Life Safety consultancy services for the Sumaysimah Island Palace Project specifically highlighting the building construction, fire protection and life safety approaches and requirements. The project had the following fire protection and life safety features including fire-resistant construction, automatic sprinkler system throughout and fire extinguishers.

**Katara Water Theme Park**  
**Doha, Qatar**

*Fire Protection Consulting Services*

The theme park was part of the Katara Commercial Development Phase IV project which was a mixed-use development in Doha. The development consists of two (2) hotels, retail mall, conference centre, cinema, marina, villas, and apartments.

Our firm served as the fire safety consulting engineer responsible for the preparation of fire safety report, review of design drawings and documents, and coordinating with the Authority Having Jurisdiction to acquire necessary approval required for the project.
HOSPITALITY + ENTERTAINMENT

Marriott International

Global Locations

In 2017, following the merger of Starwood Hotels (SPG) with Marriott International, the Marriott International Fire and Life Safety (FLS) team initiated a legacy audit program of all managed SPG properties in the European, Middle East and Africa regions, including both new buildings and conversions. The client required that hundreds of facilities around the world be audited quickly, accurately and in accordance their demanding expansion schedule.

We provided life safety reviews, plan and design reviews, construction management, system pre-testing, system commissioning and fire/life safety audits on hundreds of Marriott International properties and delivered these services in a highly responsive and technically sound manner.

To meet the Client’s specific needs, our Advanced Solutions group developed customized inspection and reporting software tools. These enabled us to bring state-of-the-art efficiency to Marriott’s global needs and provide high quality, consistent and technically superior deliverables for over 300 properties, including the audit of the 113-hotel Protea portfolio throughout Africa as part of Project Gold.

Our relationship with the chain began in 2005 and was initially staffed out of Seoul, Korea to support the opening of over 600 Marriott International properties in the Asia Pacific region. We subsequently opened offices in Shanghai and Hong Kong to support the Marriott China expansion and continue to be involved in expansion efforts to this day.

Projects in Qatar include:

- Marriott Marquis City Centre Doha Hotel, Doha
- Luxury Collection at Place Vendome, Lusail
- Delta Hotels by Marriott Doha City Centre, Doha
- St. Regis, Doha
- Ritz Carlton Sharq Village, Doha
- Ritz Carlton, West Bay Lagoon, Doha
- Le Meridien, Doha
- Café and Bakery at the W Doha Hotel and Residences

Services Provided

- Fire/life safety audits
- Inspection and reporting with client specific software
- Construction management
- Plan and design reviews
- Property surveys
- Acceptance testing
- Means of egress/passive fire protection systems
- System pre-testing
- System commissioning
Waldorf Astoria Hotel Development  
*Lusail, Qatar*  

**Fire and Life Safety Consulting Services**

Our firm was selected to perform third-party review for a luxury five-star hotel in the Lusail District. The development has a total planned area of approximately 60,000 square meters which consists of hotel, villas, hotel apartments, food and beverage outlets, hotel retail shop, health club and spa, beach club facilities and water sports centre, ballroom, meeting space and additional leisure and destination elements.

Our team provided comprehensive design reviews for compliance with NFPA standards and local Qatar Civil Defence requirements for all active and passive fire and life safety features (fire suppression systems, fire resistive construction, fire detection and alarm systems, smoke management and emergency systems).

Lusail Katara Hotel  
*Lusail, Qatar*  

**Security Consulting Services**

Our firm provided review of the facility’s security program components that could potentially impact the architectural requirements of the hotel. Our assessment also included the review of the relevant client security standards, country assessment and the hotel brand standards. We were also responsible for the preparation of the preliminary design drawings, development of finalized details and functional block diagrams, system device locations for all security systems devices.

Baccarat Hotel  
*Doha, Qatar*  

**Security and Fire and Life Safety Consulting Services**

We provided fire protection engineering services including plan review, preparation of fire strategy report and CFD analysis. We also provided security consulting services to Client during the schematic design phase, design development phase and construction document phase of the project, a hotel property which has hotel and residence towers.
**Qatar Airways 4-Star Hotel**  
*Doha, Qatar*

**Fire and Life Safety Consulting Services**

The Qatar Airways 4-Star Hotel is a proposed high-rise hotel project located near the Doha airport in Doha, Qatar. The facility is under the jurisdiction of the Qatar Civil Defence Department (QCDD).

Our team acted as the fire safety engineering consultant responsible for the preparation of the fire design brief which identifies the fire protection and life safety program of the facility. It also identifies the facility’s various fire protection features and issues.

**Hilton Salwa Beach Resort & Villas**  
*Salwa, Qatar*

**Fire and Life Safety Consulting**

Hilton Salwa Beach Resort and Villas has 361 rooms with a built-up area of 130,322 square meters. It consists of 246 hotel suites and rooms, 31 Arabic villas and 84 beach villas.

Our team provided detailed third-party review and verification of the design and as-built fire protection systems and and life safety features of the development in accordance with Qatar Civil Defence Fire Safety Guidelines, NFPA Codes And Standards And Hilton Brand And Standards Middle East and Afric. This effort included detailed fire and life safety inspections and witness testing of systems on site over an extended period of time, review of revised as-built drawings and working with Qatar Civil Defence Department (QCDD), the Authority Having Jurisdiction to assist during the approval inspections process and assist the project team with achieving a compliant completion.
Hilton Samarah Dead Sea Resort
Doha, Qatar

Security Consulting Services

The Samarah Dead Sea Resort is an integrated, mixed-use community situated in one of the most breath-taking places on the earth. Contrary to its name, the Dead Sea is bursting with vivacious life, yet steeped in history. Located at the lowest point on earth and only a short drive from the city of Amman, Samarah offers a unique style of gated community living that offers an array of prime residential properties, amenities, facilities, and activities. Samarah specifically sought this extraordinary location to celebrate its unique features that embrace healing waters, purifying air and an environment that awakens your senses.

We assessed the general programmatic risks and threats associated with the project based on the information provided by the Client. We identified concepts for security requirements as necessary for the technical security, physical security, operational security, circulation and control between various private and public spaces, and relationship and space utilization with the King Hussein bin Talal Convention Centre.

We compiled a security strategy report which provided recommended design considerations intended to reduce the vulnerabilities and provide an overall security design strategy for the project, specifying considerations in cost, user friendliness, and architectural impact of security measures. Our security consulting services completed this phase and is proceeding into the design phase.
HEALTHCARE

Hamad General Hospital
Doha, Qatar

Life Safety Consulting Services

Hamad General Hospital opened in 1982, is HMC’s largest hospital, providing diagnostic radiology, therapeutic services including IV therapy, endoscopy, bronchoscopy, lithotripsy, cardiac catheterization, physiotherapy and occupational therapy, blood bank, pathology laboratories, non-invasive laboratories, pulmonary, cardiac, and neurophysiology services, adult and paediatric inpatient care, ambulatory/emergency care, adult and paediatric day care and outpatient clinics. It currently provides 603 beds.

Our scope of services included life safety assessment of the existing hospital facility and consultation on renovations to ensure compliance with NFPA requirements and Qatar Civil Defence Fire Safety Standards.

Al Maha Centre
Doha, Qatar

Fire Protection and Life Safety Consulting Services

The Al Maha Centre project is a healthcare facility for children and young adults, and it is located within the existing Al Wakra Hospital Compound in Doha, Qatar. The building consists of a basement, ground floor, first floor and second floor. The basement includes logistics, back of house and parking; the ground floor is for inpatient and outpatient which consists of IPU, a central ‘Souq', neighbourhood outpatient clinics, and male and female prayer rooms. The first floor includes administration, lounge, lockers, meeting rooms and MEP while the second floor is mainly for MEP services.

We served as the fire engineering consultant responsible for the preparation of fire safety strategy report and evaluation of means of egress, car park ventilation, fire resistance, smoke management, fire alarm system, and access roads.

Critical Care Tower at Hamad General Hospital
Doha, Qatar

Fire and Life Safety Code Consulting Services

The Critical Care Tower is a healthcare building located in the existing courtyard at Hamad General Hospital (HGH). The building consists of five (5) floors (i.e., ground plus first through fourth floor). All floors provide inpatient care except the fourth floor which is dedicated for MEP services. The CCT accommodates a total of 44 bedrooms for inpatients.

We provided fire protection engineering consultation services during the planning, design, and tender stages of the building. Our services included code analysis, code authorities' negotiations, occupancy classification, means of egress and emergency evacuation.
Hamad Bin Khalifa Medical City
Doha, Qatar

Fire Protection and Life Safety Consulting Services

The Hamad Bin Khalifa Medical City (HBKMC) located in Doha, Qatar, is consists of several new hospitals and new health care research centres which include the Ambulatory Hospital (AH), the Women’s Hospital (WH), the Physical Medicine and Rehabilitation Hospital (PMR Hospital), and the Transitional Research Institute/ Bio Bank (TRI/Bio Bank). We served as the project’s fire protection engineer for the modification of the three (3) WH, AH, PMR Hospital towers, all sharing a common lower level, as well as for the new construction of TRI/ Bio Bank.

Our team along with serving as the chief liaison with the Authority Having Jurisdiction (AHJ), the Qatar Civil Defence (QCD), also offered alternatives and solutions to meet the expectations and goals of the hospital and architectural team while maintaining compliance with the myriad of codes and regulations applicable to modern healthcare facilities. We had to keep in mind the previously approved design and the architectural limitations of the existing structures while working with the project design teams towards making the modifications compliant to QCD accepted codes and standards. Other services provided are International Building Code consulting, NFPA 101 Life Safety Code consulting and code authorities’ negotiations.
MILITARY + AVIATION

Doha International Airport
Doha, Qatar

Fire and Life Safety Consulting Services

We provided fire and life safety consulting services for the new airport. Our team reviewed design drawings for specific issues related to U.S. building codes, including atrium requirements for smoke control, automatic sprinkler elimination, and high-rise definitions.

We provided a fire protection report that addressed occupancy, fire-resistive construction, fire-resistive separations, interior finish, egress, emergency signage, suppression system, fire alarm system, emergency/standby power, and elevators.

The team also performed computational fluid dynamics fire modelling for the main airport terminal space to demonstrate that the large building volume would provide safe, tenable building conditions during a severe fire without the need for costly smoke management systems.

Midfield Cargo Terminal 2, Hamad International Airport
Doha, Qatar

Fire Protection and Life Safety Consulting Services

Our firm is the fire engineering consultant retained by the Client responsible for the review and development of the fire and life safety strategy for the new Cargo Terminal Building, Cargo Terminal-02 (CT-02) project. It is a part of the expansion planning of the cargo campus wherein the majority of the areas will be dedicated to airside operations while landslide interface will be located primarily at the ground floor.

Part of our scope also include the conduct of special studies including the Performance Based Design Computational Fluid Dynamics (CFD), Performance-based Design Computer Egress Modelling and Fire Policy Drawings and QCDD Approvals.

CP-26 Hangar, New Doha International Airport
Doha, Qatar

Fire and Life Safety Code Consulting Services

We provided detailed fire protection design documents and support during the construction period of the project, to ensure the fire protection systems complied with all NFPA standards, as well as the concept design.

Our services included detailed design of the sprinkler and AFFF foam systems, which included a complicated arrangement of multiple foam pumps and risers. We also designed a fire detection system with numerous optical flame detectors across multiple zones. Commissioning services were also provided as the hangar neared completion.
AUF Accommodation Buildings, Al Udeid, US Airbase
Doha, Qatar

Fire and Life Safety Consulting Services
We served as the fire and life safety consultant and 3rd party sign off for the passive fire protection, for the AUF accommodation buildings in Al Udeid US Airbase, a military base in the southwest of Doha. It houses Qatar Air Force, United States Air Force, Royal Air Force, and other Gulf War Coalition personnel and assets. It is host to a forward headquarters of United States Central Command, headquarters of United States Air Forces Central Command, No. 83 Expeditionary Air Group RAF, and the 379th Air Expeditionary Wing of the US Air Force. The buildings in question are AUF accommodation / living quarters for housing air force staff.

Our team conducted review and mock-up and on-site inspections of all the installed fire protection passive systems in each property to ensure compliance with Qatar Civil Defence and NFPA codes and standards. Part of our scope included the inspection of fire stopping systems, fire doors, fire walls, fire floors, emergency exit lights, fire/smoke dampers, flame shields, etc.

New Doha International Airport, Qatar Airways Maintenance Hangar
Doha, Qatar

Fire and Life Safety Consulting Services
Services were provided for the design and construction of one of the world’s largest aircraft maintenance, repair and overhaul facilities (186,000 square meters) hangar for Qatar Airways. The hangar can accommodate 12 aircrafts, and also has administrative, workshop and worship spaces.

New Doha International Airport, Catering Facility
Doha, Qatar

Fire and Life Safety Consulting Services
Our team reviewed the fire and life safety plan and report during design stage of the project. Egress analysis was conducted to evaluate the evacuation time to assess against the effect of fire with consideration of fire suppression provisions during construction stage.

CP-11 Hangar, New Doha International Airport
Doha, Qatar

Fire and Life Safety Consulting Services
We provided detailed fire protection design documents for the two Emiri Hangars, as well as engineering support construction to ensure the fire protection systems comply with all NFPA standards, as well as the concept design. We also provided detailed design of the sprinkler and AFFF foam systems which included multiple foam pumps and risers. A fire detection system with numerous optical flame detectors was also provided. Commissioning services were also provided as the hangar neared completion.
EDUCATION

Student Centre in Qatar Education City
Doha, Qatar

Fire Protection Consulting Services
Our firm served as the fire engineering consultant for the Student Centre, a two-story mixed-use building which include the student health centre, student counselling services, a day care, fitness rooms, prayer rooms, multipurpose rooms, bowling facility, gymnasium, theatre, and areas for student clubs. The building has one level below grade and two levels above grade. The gymnasium (fitness courts), fitness centre, prayer rooms and mechanical spaces are located on the lower level while the office areas and some smaller assembly spaces are located on the 1st Floor and the rest of other spaces are located on the Ground Level.

As a consultant, our team was responsible for the review of the fire protection and life safety systems designs and drawings and preparation of fire and life safety drawings and strategies. We also assisted the client in meeting with the Authority Having Jurisdiction to obtain the necessary approval for the project.

Qatar Academy
Doha, Qatar

Fire Protection and Life Safety Consulting Services
Qatar Foundation (QF) has commissioned the design and construction of the Qatar Academy to provide a prestigious and comprehensive educational experience of international stature. The project is to provide a campus environment with all the social and cultural amenities necessary for a world-class education in both Academic and Military Science.

Our firm served as the fire engineering consultant responsible for the review of the architectural shop drawings, preparation of the fire strategy and meeting the Qatar Civil Defence. We assisted the client during the concept design stage of the two campuses located in Al Khor and Al Wakra which have an approximate land area of 525,000 square meters and 77,000 square meters respectively.

Doha Institute and Arab Centre for Research and Policy Studies
Doha, Qatar

Third-party Plan Review Services
Our team was assigned by the Client to perform third-party plan review services for the Doha Institute and Arab Research and Policy Studies. The university caters 350 graduate students from the MENA region, and it occupies an approximate area of 40, 288 square meters. Our team reviewed the architectural drawings and the fire protection design documents to ensure compliance with the local codes and standards.

Part of our scope included architectural drawings review, fire safety strategy report and drawings preparation, and client’s representation during meetings with Qatar Civil Defence.
Qatar Foundation
Research and
Development Complex
Doha, Qatar

Fire and Life Safety Consulting Services

Jensen Hughes was retained by the Client as the fire engineering specialist for the research and development complex which has laboratories used for research and development for various disciplines. The facility is a ground plus one floor and includes a series of roof penthouses. The three (3) buildings (utility building, north building, and south building) are connected by pedestrian walkways.

Part of our scope included architectural drawings review, fire safety strategy report and drawings preparation, and client’s representation during meetings with Qatar Civil Defence.

Photo Credit: Wikimedia/Alex Sergeev
The project is being designed for Qatargas by Chiyoda Technip Joint Venture (CTJV). The onshore facilities consist of four (4) LNG trains with associated facilities for gas treatment, natural gas liquids recovery, and helium extraction and refining.

**Safety Services**

We recently performed a fire safety review for the North Field Expansion Project Onshore Facilities (NFEP) as per latest international standards. We conducted fire safety reviews and workshop, including cold eyes review, led by a facilitator and scribe that includes:

- Assessment of credible fire risk, infrastructural aspects and mitigating factors
- Review of the system to alert personnel, detection facilities, active and passive fire protection measures, fire protection and firefighting infrastructure, access for firefighting, extinguisher and extinguishing systems and interaction of proposed fire safety measures with other installations
- Highlight new hazards and novel areas that might involve further training for site personnel
- Assess if lessons learned from other projects have been incorporated into FEED safety measures

Our services also include preparation of Terms of Reference prior to the workshop.

**Risk and Hazard Analysis + Process Safety Consulting**

We are currently conducting Hazard and Operability (HAZOP) studies and Safety Integrity Level (SIL) assignments for EPC-1 Phase, Onshore LNG Facilities. The scope includes all process areas, inlet facilities, utilities and offsites.

Our effort includes:

- Preparation of Pre-HAZOP and SIL Workshop documents
- Prepare the node drawings using the NFE project IFH P&IDs
- Conduct the study workshops with multiple teams working simultaneously to minimize schedule impact
- Provide HAZOP and SIL Assessment Report and recommendations
- Perform the SIL verification calculations and work with client to ensure functional safety targets are achieved
Erhama Bin Jaber Al Jalahma Shipyard
Ras Laffan, Qatar

*Code Consulting Services*

Our firm provided fire protection consulting services for the Erhama Bin Jaber Al Jalahma Shipyard facility in Ras Laffan, Qatar. We ensured the design complied with NFPA Codes and Standards as well as Ras Laffan Civil Defence Regulations. Our scope of work included various facilities systems including the Super Yacht Facility (Sprinkler system), Paint shop (Sprinkler System), Workshops (Sprinkler system), and Acetylene store (Deluge system).

Nakilat Ship Repair Yard
Ras Laffan, Qatar

*Fire and Life Safety Consulting Services*

We provided general fire and life safety consulting services and assisted in performing hydraulic calculations for the automatic sprinkler systems at the Nakilat Ship Construction Hall Annex Building. The three-story annex to the existing ship construction hall includes large workshops, offices, storage areas, dining halls and food preparation areas as well as open plan area intended for cellular office space.

LNG Plant
Ras Laffan Industrial City, Qatar

*Pre-Start Up Safety Review Services*

We performed a pre-start-up safety review of a newly constructed LNG process train. The review was conducted prior to mechanical completion in anticipation of starting production. The review included the process train as well as supporting utility areas, chemical storage, and boil off gas compressors.
CULTURAL + ASSEMBLY

Art Mill Museum and Culture Centre  
Doha, Qatar

**Security and Fire and Life Safety Consulting Services**

We provided fire and life safety and security consulting services for one of the largest and most forward-looking community museum projects in the world. While predominantly comprising gallery and exhibition space, the museum will include an extensive integrated neighbourhood area incorporating education, conference and event spaces, as well as state-of-the-art conservation and storage to match the diversity of the collection. The inclusivity theme is woven into the design from an early stage with several existing grain storage silos being salvaged and kept from the existing industrial building on the site. The neighbourhood facilities will create an environment to support the community and provide amenities for visiting families.

Part of our scope of works for Security included undertaking of a desktop Security Risk Assessment (SRA) and performing a gap analysis to assess the impact of the inclusiveness of the neighbourhood design. The same challenge requires an innovative approach to life safety requirements given the many occupancy types which are intertwined within a number of interconnecting spaces.

Qatar National Library  
Doha, Qatar

**Fire and Life Safety and Accessibility Consulting Services**

We assisted the Client in identifying the code-related means of egress issues and the implications of the current design being subjected to the International Building Code (IBC), 2003 edition requirements. To accomplish this, we reviewed the existing architectural floor plans for code compliance with IBC, 2003 edition for means of egress requirements (exit capacity and access, occupant loads, exit remoteness, travel distance and discharge, etc.), as well as requirements related to fire rated construction and separations. We issued a report of our findings and met with the client in NYC to discuss the report.

Subsequent to these services, we provided accessibility consulting services, which consisted of drawing reviews and issuance of a report. We also provided on-call consulting services, which included meetings, responses miscellaneous code questions, etc.
Museum of Islamic Arts
_Doha, Qatar_

**Fire and Life Safety Consulting Services**

The Museum of Islamic Arts is constructed on a man-made island approximately 35 meters north of the existing shoreline on the southern side of Doha's corniche, west of Doha's port, and connected by bridges to a plaza, pedestrian promenade and vehicular drive. The building has a gross floor area of 35,348 square meters, which includes gallery spaces, educational facilities, support facilities and mechanical spaces.

The objective of our involvement in the project was to develop a coordinated approach to fire protection and life safety that satisfied the Owner's objectives and the intent of the applicable codes and standards in a manner that was both reliable and cost effective. Our project approach established objectives acceptable to the Owner and Authority-Having-Jurisdiction. Based on these objectives, we developed a code compliance program that identified the building features and systems to be incorporated into the design. We also identified and resolved fire protection and life safety related code compliance issues early in the design process.

Ras Abu Aboud Stadium
_Doha, Qatar_

**Fire and Life Safety Consulting Services**

Our firm has served as the fire engineering consultant responsible for providing technical support on fire and life safety strategy, QCDD regulations and NFPA suite of codes and standards for this open-air stadium project in Doha. The stadium is a unique, first of its kind building stadium, which has been designed to be constructed for the 2022 FIFA World Cup and is intended to be disassembled after the event. It features a steel structure that will accommodate prefabricated containers of varying dimensions. The containers are assembled to create indoor spaces such as restrooms, lounges, and lockers. The stadium also features ground plus six stories along with the spectator seating bowl and will accommodate approximately 40,000 spectators with associated amenities.

Part of our scope includes the conduct of special studies particularly in intumescent coatings to steel structural members, containers fire resistance ratings, stair enclosures, and engineering judgment. Our team has been assisting the Client in obtaining all necessary Qatar Civil Defence approvals for the project.
Key Personnel

NIALL KEOGH, MSC BSC P.GRAD DIP CENG MIEI CFPS
Director, Qatar

Niall is a Chartered Engineer with a number of engineering qualifications and extensive experience in fire and life safety consulting. He has 20+ years of experience working as a fire engineer in Ireland and Qatar involving in both prescriptive and performance-based fire and life safety designs. He has experience on a multitude of performance-based fire safety designs and projects including airports, stadia, metro, commercial, mixed-use, residential, apartment and condominium buildings, offices, retail, hospitality, exhibition buildings, and convention centres. Niall has a broad knowledge in a number of internationally well-known codes and standards including National Fire Protection Association (NFPA) and British Standards, as well as the local Qatar Civil Defence Fire Safety Guidelines in Qatar.
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)

FOR ORGANIZATIONS THAT DESIGN CODES AND STANDARDS, INCLUDING:

+ National Fire Protection Association (NFPA)
+ Society of Fire Protection Engineers (SFPE)
+ International Code Council (ICC)
+ Center for Chemical Process Safety (CCPS)
+ Institute of Electrical and Electronics Engineers (IEEE)
+ Fire Protection Research Foundation (FPRF)
+ American Society for Testing and Materials (ASTM)
+ Automatic Fire Alarm Association (AFAA)
+ American Society of Mechanical Engineers (ASME)
+ American Nuclear Society (ANS)
+ American Institute of Steel Construction (AISC)
+ American Iron and Steel Institute (AISI)
+ American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)
+ ASIS International (ASIS)
+ Council on Tall Buildings and Urban Habitat (CTBUH)
+ National Association of Fire Investigators (NAFI)
+ Joint Army-Navy-NASA-Air Force Safety and Environmental Protection (JANNAF)
+ World Organization of Building Officials (WOBO)
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.