

Resume

Khaled A. El-Domiaty, M.Sc., P.E.
Associate Principal/Vice President
Director of DC Office Operations

Background

With a remarkable background in design, analysis, research, and testing, Khaled El-Domiaty brings a detailed knowledge of leading-edge solutions to all his projects. As a key member of the safety and security design field for over 13 years, he has played an instrumental role in developing, managing, and delivering a wide array of projects. He has provided risk assessment services to property owners (government, commercial or industrial) to mitigate potential risks associated with blast, fragmentation, progressive collapse, AFTP, fire and toxic hazards. Additionally, he has performed forensic investigation for litigation support, training, R&D, guideline development, structural design, and remedial and retrofit design for a variety of structures. Mr. El-Domiaty's projects have included facilities and clients nationwide, as well as international clients in Canada, Middle East, Africa and Asia.

Mr. El-Domiaty is fluent in English and Arabic.

Representative Work Experience

- **Consequence, Risk-Based-Blast Assessment and Mitigation of Multiple Buildings for Petrochemical/Chemical Plants in USA and Canada-** Lead risk assessment engineer and/or program Manager for over 12 years. Consequence or QRAs at multiple plants to identify and upgrade occupied buildings that did not meet the owner's risk criterion to the possible explosion scenarios. Completed conceptual and detailed risk-based blast upgrade designs for multiple control and admin buildings determined to be at high risk to blast threats. Provided calculations and drawings for blast upgrade retrofits prior to construction, and reviewed blast door vendor submittals and contractor field modifications as part of construction administration services. A representative list of the facility owners are:
 - Valero
 - Sunoco
 - Western Refining
 - NuStar
 - Marathon
 - Suncor
 - Syncrude
 - Imperial Oil
 - ExxonMobil
 - ConocoPhillips
 - Shell
 - PBF Energy

- **Consequence Blast Assessment for SABIC Ibn Zahr Plant , Al Jubail- Saudi Arabia-** Blast Engineer, consequence based assessment of accidental blast hazards and preliminary upgrade design concepts for occupied buildings.
- **Seven Natural Gas Power Generation Centers, Delhi India** - Program Manager. Risk Assessment of interior accidental blast and fire hazards within seven power generation centers, conceptual and detailed upgrade designs for operations, infrastructure and occupied buildings.
- **Equate Control Room Expansion, Kuwait** - Program Manager. Blast, Thermal and Fragmentation Mitigation Design of new 2-story control building expansion. Mitigation design of structural components, building façade, connection details, and window glazing, construction administration and review of vendor submittals.
- **Blast Design of Ammonothermal Laboratory, Wright – Patterson Air force Base- Sensors Laboratory Complex WPAB-** Blast Engineer and Program Manager. Blast engineering, lab safety study services, hazardous debris and fragment containment, blast venting and risk assessment, studies on high pressure and temperature hazardous ammonia vessel ruptures at the new lab and effects on surrounding labs and adjacent structures. The project was designed according to project specifications, safety and lab operations requirements as well design guidelines of UFC3-340-02. Provided construction administration services by reviewing construction drawings and vendor submittals in support of the construction effort.
- **Advanced Energetics Research Laboratory Complex, Indian Head Division- Naval Surface Warfare Center, Indian Head, MD-** Blast Engineer and Program Manager. Blast engineering consulting, explosive safety studies and construction administration services according to project specifications and design guidelines of NAVSEA OP-5 and DDESB.
- **Air Force Blast Mitigation Development Program for Masonry and Glazing Catch Systems, Washington, DC-** Program Manager and Lead Structural/Blast Engineer- Development and testing program of polyurea catch systems for masonry walls and windows to resist bomb threats through an FEA analytical and shock tube testing approach.
- **Department of State Blast Mitigation Development Program for Glazing Catch Systems, Washington, DC-** Program Manager and Lead Structural/Blast Engineer- Development and testing program of polyurea catch systems for masonry walls and windows to resist bomb threats through an FEA analytical and shock tube testing approach.

Technical Committees and Professional Affiliations

American Society of Civil Engineers

Member

American Concrete Institute

Voting Member of Task Group ACI 370 (Short Duration Dynamic Effects) and 440-F (External FRP Retrofits on concrete) - Developing blast design guidelines for upgrading concrete and masonry structures with FRP composites

American Society of Military Engineers

Member

American Institute of Steel Construction
Member

Protective Glazing Council
Member

Education

University of Missouri-Rolla, Rolla-Missouri
Master of Science, Civil Engineering (2002)
Kuwait University, Kuwait City-Kuwait
Bachelors of Science, Civil Engineering (1999)

Registrations

Virginia PE# 046145
District of Columbia PE# 906797
Maryland PE# 42362
Tennessee PE# 00115212

Brief Employment History

Associate Principal/Vice President, Director of DC Operations, Stone Security Engineering, P.C. - present
Principal Engineer/ Lead Supervisor, BakerRisk, Washington, DC (2012 - 2014)
Senior Engineer/Lead Supervisor, BakerRisk, Washington, DC (2009 - 2011)
Project Engineer/Consultant II, BakerRisk, Washington, DC (2007 - 2008)
Project Engineer/Consultant I, BakerRisk, Washington, DC (2006 - 2007)
Project Engineer, SK&A Engineers, Rockville, MD (2005-2006)
Design Engineer, Structural Group, Inc., Elkridge, MD (2004-2005)
Project Engineer/Consultant I, BakerRisk, San Antonio, TX (2002 - 2004)

Teaching

Introduction to Security Engineering, Blast Effects and Mitigation for USAID - 4 Day Course Introducing Security Engineering, Blast Resistant Structural Design, Blast Effects and Mitigation, Course Manager and Instructor, 2007, Washington, DC

Blast Resistant Structural Design Short Course - 5 Day Course Introducing Blast Resistant Structural Design, Course Manager and Instructor, February 2008, Loudoun, Virginia

Introduction to Security Engineering, Blast Effects and Mitigation for USAID - 4 Day Course Introducing Security Engineering, Blast Resistant Structural Design, Blast Effects and Mitigation, Course Manager and Instructor, 2008, Washington, DC

Blast Resistant Structural Design Short Course - 5 Day Course Introducing Blast Resistant Structural Design, Course Manager and Instructor, February 2009, Loudoun, Virginia

Introduction to Security Engineering, Blast Effects and Mitigation for USAID - 4 Day Course Introducing Security Engineering, Blast Resistant Structural Design, Blast Effects and Mitigation, Course Manager and Instructor, 2009, Washington, DC

Blast Resistant Structural Design Short Course - 5 Day Course Introducing Blast Resistant Structural Design, Course Manager and Instructor, February 2010, Loudoun, Virginia

Gate Precast Blast Resistant Precast Design Short Course - 2 Day Course on Introduction of Blast resistance of Precast and Design, Course Manager and Instructor, October 2010, Oxford, North Carolina

Blast Resistant Structural Design Short Course - 5 Day Course Introducing Blast Resistant Structural Design, Course Manager and Instructor, February 2011, Loudoun, Virginia

Blast Resistant Structural Design Short Course - 5 Day Course Introducing Blast Resistant Structural Design, Course Manager and Instructor, February 2012, Loudoun, Virginia

Royal Canadian Mounted Police Glazing Retrofit Course - 3 Day Course on Applicability and Evaluation of Fragment Retention Films, Course Manager and Instructor, March 2012, Loudoun, Virginia

Blast Resistant Structural Design Short Course - 5 Day Course Introducing Blast Resistant Structural Design, Course Manager and Instructor, February 2013, Arlington, Virginia

France Metal Blast Resistant Door and Glazing Short Course - 3 Day Course on Introduction of Blast Resistant Door and Glazing Behavior and Design, Course Manager and Instructor, April 2013, Cairo, Egypt

Blast Resistant Structural Design Short Course - 5 Day Course Introducing Blast Resistant Structural Design, Course Manager and Instructor, March 2014, Arlington, Virginia

Publications

El-Domiaty, Khaled A, (2002) "**Blast Resistance of Un-Reinforced Masonry Walls Retrofitted with Fiber Reinforced Polymers**", MSc. Dissertation, University of Missouri -Rolla.

J. Myers, A. Belarbi, Khaled A. El-Domiaty, (2003) "**Blast Resistance of Un-Reinforced Masonry Walls Retrofitted with Fiber Reinforced Polymers**", Proceedings of the Ninth North America Masonry Conference. *Received an Honorable Mention for Best Publication and was featured on cable television special titled The Wrecking Ball – History Channel.*

J. Myers, A. Belarbi, Khaled A. El-Domiaty, (2004) "**Blast Resistance of FRP Retrofitted Un-Reinforced Masonry (URM) Walls with and without Arching Action**", TMS Journal, Vol.22, No.1.

El-Domiaty, Khaled A, M. Lowak, J. Wesevich, R. Norris, C. Ackerman (2007) "**Research and Development of Cost-Effective Glazing Retrofit Catch Systems for Department of State**", 2007 ISIEMS Conference

Khaled El-Domiaty, J. Wesevich, T. Alkhrdaji (2008), "**Blast Uplift Evaluation of Reinforced Concrete Slabs Strengthened with Composite Materials**", 2008 SAVIAC Conference

Matt Edel, J. Wesevich, Khaled El-Domiaty, P. Mendoza (2008), "**Structural Design Considerations for Masonry Walls Strengthened with FRP**", 2008 DDESB Conference

J. Florek and Khaled El-Domiaty (2010), "**Exploring DDESB Acceptance Criteria for Containment of Small Explosive Charge Weights**", 2010 DDESB Conference

J. Florek, Khaled El-Domiaty, and T. Drury (2010), "**Experimental and Computational Evaluation of Polyurea Catching Systems for Masonry Walls Subjected to Blast Loads**", 2010 SAVIAC Conference

J. Florek and Khaled El-Domiaty (2011), "**Design Aspects for New Construction of a Test Firing Range**", 2011 ISIEMS Conference

J. Florek, Khaled El-Domiaty, P. Mendoza , A. Christiansen, and P.Hoffman (2012), "**Numerical Simulation of Advanced Micro-Reinforced Concrete Composite Systems Subjected to Blast Loading**", 6th Int. Conference on Advanced Composite Materials in Bridges and Structures.

R. Galli, Khaled El-Domiaty, and Eric Wolff (2012), "**Applicability of FRP Systems for Retrofitting Existing Buildings to Prevent Progressive Collapse**", 2012 Structures Congress- ASCE

J. Florek, Khaled El-Domiaty, and E. Wolff (2012), "**Numerical Simulation and Testing Validation of Composite Steel Stud Blast Panels Retrofitted with FRP**", 2012 CICE