



Contact Details

Meacham Associates
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Representative Positions Held

2008 – present *Meacham Associates*,
Managing Principal

2008 – 2017 *Worcester Polytechnic
Institute*, Associate Professor

2000–2007 – *Arup*, Principal; Global
Leader – Risk Consulting Practice;
Business Leader – Management
Consulting (Americas); Business
Leader – Risk & Security (Americas);
Fire Engineering Consultant

1995–2000 – *SFPE*, Research Director
and Technical Director

Qualifications

P.E., Massachusetts, 47238

P.E., Connecticut, 19706

Chartered Engineer, Institution of
Fire Engineers (UK)

Ph.D., Risk and Public Policy, Clark
University

M.S., Fire Protection Engineering,
Worcester Polytechnic Institute

B.S., Electrical Engineering,
Worcester Polytechnic Institute

Professional Memberships

International Association for Fire
Safety Science

Institution of Fire Engineers

Society of Fire Protection Engineers

National Fire Protection Association

Key Data

Brian is Managing Principal of Meacham Associates, a firm that provides risk-informed performance-based solutions to complex building and infrastructure challenges, conducts building and fire regulatory system capacity assessments, and undertakes research in these and related areas.

Brian has more than thirty years of international experience helping public- and private-sector organizations tackle challenging fire engineering, risk and regulatory issues. His experience includes multi-hazard threat, vulnerability and risk assessments, performance-based fire engineering analysis, design and peer review, assessment of organizational resilience, risk and regulatory consulting, and research.

Brian is widely recognized as an authority on risk-informed performance-based approaches to engineering and regulation, having undertaken research, participated in the development of guidance documents, authored numerous publications, and consulted to governments world-wide.

Awards, Recognition, Appointments

Fellow, IFE

Fellow, SFPE

Fulbright Global Scholar Awardee

ICC 2017 Global Award

SFPE Harold E. Nelson Service Award

Chair, NFPA Technical Committee,

Fire Risk Assessment

Chair, US TAG, ISO TC92 SC4

Representative Recent Projects

Port Authority of New York and New Jersey, (New York, NY). Contracted to lead peer-review services for a performance-based design of a high-hazard facility. Sub-contractor to Mott MacDonald (March 2018 –)

Fire Protection Research Foundation (Quincy, MA). Research on oxygen reduction systems for fire. With Lund University (May – September 2018).

International Code Council (Washington, DC). Development of a document on the benefit of building codes for increasing community resiliency (March – September 2018).

Scottish Government, Building Standards Division (Edinburgh, Scotland). Contracted to conduct research into the options for a centralized hub for verification of fire engineering designs (February – June 2018).

World Bank (Washington, DC). Engaged as Senior Consultant to the World Bank, *Building Regulation for Resiliency* project, to develop building regulatory capacity assessment approach for low- and middle-income countries, and to undertake building regulatory capacity assessments (2016 -).

Australian Building Codes Board (Canberra, ACT, Australia). Contracted to develop report on threshold tolerable risk levels for inclusion into the National Construction Code (2015 – 16).

Parsons Brinckerhoff, Inc. (New York / Atlanta). Contracted to support development of HRR data for CFD modeling of rail vehicle, review CFD modeling methodology report and prepare a review report (2016 – 17).

Fire Protection Research Foundation (Quincy, MA). Research and chapter contribution on ‘mobile sensors’ for research roadmap for smart fire-fighting (2014).

Confidential Client (MA). Survey and assessment of regulatory compliance of fire separation/compartimentation in residential building. Involved code review, site survey, and written assessment (2013).

Studio di Architettura (Milan, Italy) and Novartis (East Hannover, NJ). Code consulting and fire engineering alternatives analysis for building in New Jersey (2012).

Representative Past Projects*

**Aedas / Marina Bay Sands (Singapore).* Project Director and Principal Risk Consultant for a comprehensive threat, vulnerability and risk assessment the Marina Bay Sands Integrated Resort design.

**Confidential Client.* Security, Terrorism, Fire and Life Safety advisor for the design for a super-tall building. Advised on issues ranging from response to deliberate events to strategies for fire and life safety in super-tall buildings.

**Confidential Client.* Project Director for a comprehensive review of hazards and risks associated with the design of a new corporate headquarters building of a financial services firm in NYC, and for the development of a report on risk mitigation measures for the design.

**Miami International Airport, Rental Car Facility, (Miami, FL).* Principal Risk and Fire Consultant for a \$40 Million project to design and construct a consolidated rental car facility at the Miami International Airport. Responsibilities included system safety assessment, performance-based fire and life safety analysis, fire hazard and risk assessment and development of fire and explosion mitigation strategies.

**Port Authority of New York and New Jersey, (New York, NY).* Principal Risk Consultant for a proposed PANYNJ facility in lower Manhattan. Led a Threat and Risk Assessment (TARA) for defined areas.

**New York City Transit, (New York, NY).* Principal Risk Consultant for the design of the \$750 Million Fulton Street Transit Center in lower Manhattan. Led a security TVRA and a risk assessment and management effort for the project management team, which included a Risk and Opportunities register for estimating and tracking project financial risks.

**Sandoz (Switzerland).*

Recommended modifications to fire safety standards and procedures for chemical warehouse facilities. The focus was to identify a performance-based approach as an alternative to prescriptive requirements.

**Tungsram /G.E. Lighting (Hungary).*

Undertook fire hazard and qualitative risk analyses of five light bulb manufacturing facilities and developed a fire safety master plan to address hazards and risks.

*Project experience with previous firms

Representative Publications

Books

Fitzgerald, R.W. and Meacham, B.J., *Fire Performance Analysis for Buildings*, John Wiley & Sons, New York, April 2017.

Tubbs, J. and Meacham, B.J., *Egress Design Solutions: A Guide to Evacuation and Crowd Management Planning*, John Wiley & Sons, 2007.

Meacham, B.J., Editor, and Johann, M., Associate Editor, *Extreme Event Mitigation in Buildings: Analysis and Design*, National Fire Protection Association, Quincy, MA, 2006.

Handbook Chapters

Meacham, B.J., Johnson, P.J., Charters, D. and Salisbury, M., "Building Fire Risk Analysis," Chapter 75, *SFPE Handbook of Fire Protection Engineering*, 5th Edition, Springer, 2015.

Papers

Meacham, B.J. and van Straalen, I., "A Socio-Technical System Framework for Risk-Informed Performance-Based Building Regulation," *Building Research & Information*, on line 30 March 2017.

Jutras, I. and Meacham, B.J., "Development of objective-criteria-scenario triplets and design fires for performance-based Fire Safety Design," *Journal of Building Engineering*, online 4 Sep 2016.

Martin, D., Tomida, M. and Meacham, B.J., "Environmental Impact of Fire," *Fire Science Reviews*, on-line 8 September 2016.

Meacham, B.J., "Post-Earthquake Fire Performance of Buildings: Summary of a Large-Scale Experiment and Conceptual Framework for Integrated Performance-Based Seismic and Fire Design," *Fire Technology*, Volume 52, Issue 4, pp 1133–1157, 30 July 2015.

Almejmaj, M. and Meacham, B.J., "The Effects of Cultural Differences between the West and Saudi Arabia on Emergency Evacuation – Overview of Problem and Analysis of Clothing on Walking Speed," *Fire & Materials*, Vol 39, Iss 4, 2014

Alvarez, A., Meacham, B.J., Dembsey, N.A. and Thomas, J.R., "A Framework For Risk-Informed Performance-Based Fire Protection Design For The Built Environment," *Fire Technology*, Vol. 50, pp161-181, 2014.

Schebel, K., Meacham, B.J., Dembsey, N.A., Johann, M., Alston, J. and Tubbs, J., "Fire Growth Simulation in Passenger Rail Vehicles Using a Simplified Flame Spread Model Coupled with a CFD Fire Model," *Journal of Fire Protection Engineering*, Vol. 22, Iss 3, 2012

Meacham, B.J., Dembsey, N.A., Johann, M., Schebel, K. and Tubbs, J., "Use of Small-Scale Test Data to Enhance Fire-Related Threat, Vulnerability, Consequence and Risk Assessment for Passenger Rail Vehicles," *Journal of Homeland Security and Emergency Management*, Vol 9, Iss. 1, 2012.

Representative Committees

ISO TC92 SC4 – Fire Safety Engineering, US Technical Advisory Group, Chair

NFPA Technical Committee on Fire Risk Assessment Methods, Chair

Inter-jurisdictional Regulatory Collaboration Committee (IRCC), Past President. (www.ircc.info)