

JOSEPH M. FLEMING
Fire and Life Safety Consulting Inc.

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WORK EXPERIENCE

DEPUTY CHIEF/DIVISION 2

03/02-Present

- Field Deputy responsible for 6 Districts, 28 Companies, 125 fire fighters and 300,000 people (500,000 – 600, 00 during a weekday).
- Incident Commander for all multiple alarm fires, major hazardous material incidents, and technical rescue/special operations incidents.
- Developed in-service training programs for firefighters: truss construction, rubber roofs, fire fighter accountability, response to gas emergencies, FF ‘Near Miss’ program.
- Conducted post fire critiques and developed “lesson learned” reports.
- Authored language in State Building Code, 7th Edition and State fire Code, 527CMR requiring photoelectric or combination smoke alarms.
- Selected to represent Local 718 (IAFF Union) on the Boston Fire Department’s Safety Committee to monitor compliance with NFPA 1500 Standard on Firefighter Safety.
- Supervised the Linear Heat Detection/ Operational Response Study for the Central Artery/Third Harbor Tunnel Project. Developed testing protocol and supervised approval of Ventilation System for Central Artery/Third Harbor Tunnel Project.
- BFD coordinator of program to develop Fire Safety Mitigation Plan for Liquefied Natural Gas Tankers entering Boston Harbor and developed Fire Safety Mitigation Plan for the Keyspan Liquefied Natural Gas Storage Facility in Dorchester.
- Authored BFD’s Report that was submitted to Governor’s Task Force on Nightclub Safety. (Task Force created after RI Nightclub Tragedy.)
- Updated High Rise SOP and developed training seminar for Boston & Metro Chiefs.
- Supervised plan review and provided consultation regarding response protocol for new Bio-Level 4 Laboratory at Boston University Medical Center.

DEPUTY CHIEF/FIRE MARSHAL

11/94 – 02/02

- Oversaw staff of over 80 people (55 in Inspections and 25 in Investigations.)
- Re-organized Fire Prevention and instituted weekly training program to assist in obtaining certification. (Inspections increased by 40% with the same number of personnel.)
- Advocated that Fire Prevention to be selected as “beta site” for City’s new Peoplesoft Accounting System. Once the FP Division was selected, supervised implementation.
- Reviewed several “alternative to prescriptive” plans using performance-based designs, including an 18,000-seat arena and a Convention Center.
- Represented City of Boston before Boston City Council and State Legislative Committees regarding funding and fire prevention issues.

- Advocated for and supervised implementation of the Fire Prevention Division's move to 1010 Massachusetts Avenue to facilitate interaction with the Inspectional Services and facilitate permit process for the public.
- Developed Fire Evacuation Plans for City Hall, Public High Schools, as well as many other municipal buildings. This required negotiations with 3 separate unions.
- Initiated training programs for Business and Trade Assoc., including a "High-Rise Safety Seminar", attended by over 300 building managers.
- Created 1st BFD Plans Unit to review 1,500 plans/permits per year and conduct on-site testing. Supervised several Fire Protection Engineers.
- Developed new regulations, which were adopted by the State of Massachusetts, regarding blasting after multiple meetings with community, quarry representatives, and academia.
- Developed and implemented new regulations governing fire safety during construction and renovation, including new fire watch guidelines.
- Developed high-rise inspection and enforcement program to insure compliance with US's first retroactive high-rise sprinkler ordinance.
- Authored language in State Building Code, 6th Edition, requiring photoelectric smoke alarms within 20 ft of kitchen or bathroom.
- Supervised Fire Investigative Unit and personally investigated all major fires, including several fatal fires each year.
- Implemented new community outreach programs to schools and the elderly, including the City's first smoke alarm installation program.
- Worked with business community and City council to increase fees while streamlining permit process. Improvements increased amount collected by 50% while saving business community money by faster approvals.
- Coordinated the re-institution of the City of Boston's Juvenile Fire Setter Program.

DEPUTY CHIEF/LIASION – DEER ISLAND PROJECT

09/92 – 10/94

- Developed pre-fire plans and response protocols for Massachusetts Water Resource Authority's Wastewater Treatment Plant, the 2nd largest in US.
- Reviewed and approved the installation of the fire protection systems.
- Reviewed, approved, and conducted inspections for all temporary permits required insuring fire safe construction practices for over 4,000 workers.
- Oversaw development of innovative safety requirements, as coordinator of OSHA-Mandated Rescue Team, for the 9-mile Out-Fall Tunnel.
- Conducted post-fire analysis of multi-million dollar tunnel fire and in cooperation with OSHA and MWRA developed and instituted new operational safety standards for tunneling operations that far exceeded the OSHA requirements.

DISTRICT CHIEF/ASSISTANT FIRE MARSHAL

06/91 – 08/93

- Re-designed "Quarterly/Special Occupancy" Inspection Program.
- Oversaw Permitting and Licensing Section of Fire Prevention Division. Supervised Inspectors who reviewed over 1,000 Special Hazard permits.
- Served as Fire Prevention's liaison to the Building Dept. Participated in several hundred plan reviews each year.

- Assisted in the investigation of dozens of fires each year regarding code violations, as well as other contributing factors to property and/or life loss.
- Helped design the BFD's Promotional Study School and developed and taught curriculum on Effective Studying and Test Taking

CAPTAIN (Engine Co. 41 & Ladder Co. 26)

07/87 – 05/91

- Responsible for training and inspectional duties for all working groups.
- Responsible for day-to-day operations during work shift, including supervision of emergency operations, i.e. suppression & EMS.
- Filled in as District Chief on a periodic basis as needed.

LIEUTENANT (Engine Co. 4)

06/85 – 06/87

- Responsible for day-to-day operations during work shift, including supervision of emergency operations, i.e. suppression & EMS.

FIREFIGHTER (Assigned to Rescue, Ladder and Engine Companies.)

09/78 – 05/85

- Developed BFD's first computerized "Personnel Tracking Program".
- As a member of Rescue Co. 1 trained in technical rescue and hazardous material response.
- Certified as one of the first EMT's on the Boston Fire Department.

MASSACHUSETT'S BOARDS AND COMMISSIONS

- The Mass. Fire Protection/Fire Prevention Board, 11/94 – 11/02.
- The Massachusetts Fire Safety Commission, 11/94 – 11/02.

NATIONAL COMMITTEES

- Technical Advisory Panel for UL 217, Underwriters Laboratories Standard for the design, testing, and maintenance of smoke alarms.
- Society of Fire Protection Engineer's Seminar on 21st Century Technology, 10/99.
- National Fire Protection Research Foundation's Advisory Councils on: Fire Detection & Alarm Futures, Post Fire Analysis, and Tunnel Fire Detection, 98 - 99.
- The U.S. CPSC's Roundtable Meetings Dealing with the "Evaluation of Effectiveness of Residential Smoke Alarms", 98 - 01.
- Underwriters Laboratories Fire Safety Council, 98 - 07.
- The Committee for the Development of a Nationally Acceptable Recommended Rehab Provisions. (Sponsored by HUD and the Nat. Assoc. of Homebuilders), 3/97.
- Selected to Co-Chair of the International Fire Code Performance Code Committee for the International Code Council. 6/97–10/98. *Note: Resigned due to workload at BFD.*
- National Fire Protection Association Task Group on Smoke Alarms, 07/07 – 01/08.

AWARDS/HONORS

- 2004 Gerard J. Molito Award – Boston Fire Department.
 - For BFD employees who contribute to the enhancement of firefighter safety.
- 2002 Person of the Year - Automatic Fire Alarm Association, Minneapolis, MN.
- 2001 Shattuck Public Service Award - Boston Municipal Research Bureau.
 - For municipal employees who exhibit “unusual competence and initiative”.
- 1982 Recipient of a scholarship to Northeastern University as part of the City’s “Employee Development Program”.
- Eta Kappa Nu and Tau Beta Pi Engineering Societies, Northeastern University.

EDUCATION

Degrees

- Masters Degree in Information Systems, Northeastern University, 1988
- Bachelor’s Degree in Electrical Engineering, Northeastern University, 1983

Additional Courses

- Incident Response to Terrorist Bombings, US Dept. Homeland Security, 03/06.
- Introduction to Incident Command System, U.S. Dept. of Homeland Security. 11/05.
- Basic Incident Command System, U.S. Dept. of Homeland Security, 05/05.
- Basic Fire Investigation, Massachusetts Fire Academy, 09/01.
- “People Protecting Property”, Seminar at Factory Mutual, Norwood, MA, 10/98.
- “Leadership 2000” – Management Training, Boston, MA 1998.
- NFPA Life Safety Code, NFPA 101, Seminar, Braintree, MA, 10/97.
- Fire Instructor I – Certification, Massachusetts Fire Academy, 12/97.
- National Fire Alarm Code, NFPA72, Seminar, Braintree, MA, 10/96.
- Preparing for Incident Command, National Fire Academy, Emmitsburg, MD, 06/87.

MEMBERSHIPS/ASSOCIATIONS

- International Association of Fire Chiefs.
- Professional Member of the Society of Fire Protection Engineers.
- Society of Fire Protection Engineers – New England Chapter
- The National Fire Protection Association.
- The International Association of Fire Fighters – Boston Local 718.
- International Association of Arson Investigators
- Metro Fire/Arson Investigators Association
- Boston Society of Architects, Corporate Membership
- International Code Council

PAPERS/PRESENTATIONS

Performance Based Codes

“A Code Officials View of Performance Standards”

- NFPRF Fire Risk and Hazard Symposium, San Francisco, CA, 6/96.
- International Conference on Performance Based Codes and Fire Safety Design Methods, Ottawa Canada, 9/96.
- Published in "The Code Official" (Jan/Feb 1999), the official magazine of BOCA.

“A Fire Marshal’s Experience with Performance- Based Fire Safety”

- NFPA Annual Meeting, Cincinnati, OH, 5/99.

“Code Officials and Performance Based Fire Safety” (Co-authored with Mike Wojcik and Paul Donga.)

- Second Conference on Fire Safety Design in the 21st Century, Worcester, MA, 6/99.

“Methodology for the Selection of Safety Factors in Deterministic Analyses”

- SFPE Symposium on Risk, Reliability and Uncertainty in Fire Protection Engineering, Baltimore MD, 5/99.

“Pitfalls and Limitations of Performance-Based Codes”

- Adaptive Reuse of Historic Properties Seminar, Sponsored by NFPA Cultural Resources Committee and Virginia Dept. of Fire Programs, Williamsburg, VA, 10/01.

“RSET/ASET, a Flawed Concept for Fire Safety Assessment”

- Co-authored with Vyto Babrauskas and B. Don Russel
- 11th International Fire and Materials Conference, San Francisco, CA, 01/09.

“Visibility as Egress Criteria: A Review of the Literature”

- 2nd International Symposium on Human Behavior in Fire, Massachusetts Institute of Technology, Cambridge, MA, 03/01.
- NFPRF Fire Risk and Hazard Symposium, Baltimore, MD, 6/01.

Building & Fire Codes

“Boston Fire Department’s “Substantial” Alteration & Renovation Criteria for Fire Protection Upgrades”

- NFPRF Fire Suppression and Detection Research Application Symposium, Orlando, FL, 2/99.
- Boston’s Housing 2000 Initiative – Fire Safety Seminar for the Real Estate Industry, Boston, MA 8/99.
- Massachusetts Fire Prevention Association, Annual Meeting, Amherst MA, 4/01.

“Fire Safety Regulation in the United States – Problems and Solutions”

- New England Association of Fire Protection System Designers - Annual Seminar, Mount Snow, VT 03/06.

“New Issues in Property Protection”

- “People Protecting Property”, Seminar at Factory Mutual, Norwood, MA, 10/98.

“Retro-active Sprinkler Requirements in Massachusetts – (Methods to Encourage Sprinklers in Existing Buildings)”

- New England Association of Fire Protection System Designers - Annual Seminar, Mount Snow, VT 03/06.

High Rise Fire Safety

“Detection and Suppression Issues in High Rise Buildings”

- Fire Safety Director’s Association-New York Annual Meeting, Life Safety/Security Technology Next Millennium, 11/99.

“High Rise Fire Tactics and Building Systems – A Look at Recent Fire.”

- Boston Fire Dept. Chief’s Training Seminar, Boston, MA 11/04.
- Metro Fire Chief’s Training Seminar, Boston, MA 12/04.

“High-Rise Safety – Coordination of Building Evacuation and Firefighting Tactics”

- High Rise Fire Prevention and Protection Seminar, Boston, MA 04/96.

Smoke Alarms

“Discussion of Smoke Detector Technology”

- 2 debates with industry representative before Boston City Council, 07/07 & 09/07.

“Ionization vs. Photoelectric – Is There a Qualitative Difference for Life Safety?”

- Presentation to the Boston City Council, Boston, MA 07/07.
- Presentation to the Massachusetts Summit on Smoke Alarms, Stowe, MA 10/07.
- Presentation to the Vermont State Senate, Montpelier, VT 01/08.

“Photoelectric vs. Ionization Detectors - A Review of the Literature”

- NFPRF Fire Suppression and Detection Research Symposium, Orlando, FL, 2/98.
- Conference of the Coordinating Committee for the Fire Safety of Plastics Industry Trade Association, Washington, D.C., 7/98.
- A debate with Dick Bukowski of the Building and Fire Research Laboratory of the National Institute of Standards and Testing. Presentation at the NFPA World Fire Safety Congress and Exhibition, Baltimore, MD, 5/99.
- Massachusetts Fire Prevention Association, Annual Meeting, Amherst MA, 4/99.

“Photoelectric vs. Ionization Detectors - A Review of the Literature, Revisited”

(This presentation included analyses of: 1) 30 years of smoke detector studies, 2) the National Institute of Standards Smoke Detector Project, 3) statistic regarding the effectiveness of smoke detectors, and 4) the effectiveness of Underwriter’s Labs Smoke Detector Approval Standard, UL217.)

- NFPRF Fire Suppression and Detection Research Symposium, Orlando, FL, 01/05.
- Annual meeting of Underwriters Laboratories, Chicago, IL 05/05.

- National Association of State Fire Marshal's, Annual Meeting, Reno, NV, 07/05.
- State Fire Marshal's Annual Training Seminar, Barre, VT 06/06.

"Smoke Detectors and the Investigation of Fatal Fires"

- Utilized in the "Guide To Fire Incident Reporting", Office of the Fire Commissioner, Province of Saskatchewan, Canada 2003.
- Published in May 2000 issue of "Fire & Arson Investigator", the official magazine of International Association of Arson Investigators.
- Published on Interfire.org, an Arson Resource Website – posted 02/01.
- Training Seminar sponsored by the Massachusetts Chapter of the International Association of Arson Investigators, Boston, MA, 9/00.
- National Association of State Fire Marshal's Annual Meeting, Lexington, KY, 07/00.

"The Truth about Smoke Detectors"

- Redmond Symposium – International Association of Fire Fighters' Occupational Health & Hazards of the Fire Service Annual Conference, Chicago IL, 10/07.

Specialized Fire Topics

"Comment on Campus Fire Safety,"

- Commentary on how fire alarm systems relate to campus fire safety, particularly the benefit of photoelectric technology, Journal of Fire Protection Engineering, Society of Fire Protection Engineers, Winter 2008..

"Alarm Systems and Student Safety - On and Off Campus"

- Campus Health and Safety Management, Annual Meeting, Boston, MA, 2007.

"LNG Transit in Boston Harbor – The Boston Fire Dept.'s Concerns Regarding Potential Levels of Heat Flux"

- Massachusetts Legislatures Joint Committee on Homeland Security and Federal Affairs, Boston, MA, 02/04.
- Underwriters Laboratories Fire Safety Council, Washington D.C. 06/04.

"Night Club and Place of Assembly Fire Safety"

- Southeastern Mass. Building Officials Training Seminar, Bridgewater, MA 01/06
- Southeastern Mass. Building Officials Training Seminar, Bridgewater, MA 02/05

"Tunnels Fires: Fire Response vs. Fire Growth Rate"

- International Symposium on Tunnel Safety and Security, Sponsored by National Infrastructure Institute Center for Infrastructure Expertise, Greenbelt, MD, 11/04.

"Keeping the City Safe – Hot Seat Interview,"

- NFPA Fire Journal, Jan/Feb 1998, National Fire Protection Association, Quincy, MA

Articles for Boston Firefighter's Digest (Local 718, IAFF)

- "A Response to the Boston Globe's Paid Detail Story," Spring 2006.
- "Firefighter Safety and Truss Construction," Summer 2005.
- "Lessons Learned - Hyde Park Church Collapse," Spring 2009.
- "Flashover," Summer 2009.

NEWS STORIES FEATURING CHIEF FLEMING

United States

- "An alarming Life and Death Issue," Dana DiFilippo, Philadelphia daily News – PA (02/13/2009)
- "New Technology Bolsters Smoke Detectors," Associated Press, Pittsburgh, PA. (12/21/2008)
- "More Details about the Fire that Killed Brett McDavid," Donna Miller, Cleveland Plain Dealer, OH. (11/04/08)
- "Fire Victims' Fathers Want One Smoke Detector Required," Mary Beth Lane, The Columbus Dispatch, OH. (07-27-08)
- "Firefighters Wage Campaign Over Smoke Detectors," David Gram, AP, Boston Globe – MA. (02/10/2008)
- "Smoke Alarm Failures Prompt Vermont Senate Bill," Peter Hirschfield, Montpelier Times Argus - VT. (02/10/2008)
- "Fatal Massillon Fire Draws Attention of Boston Chief," Matthew Rink, Massillon Independent – OH. (01/17/2008)
- "Nuisance Fire Alarms Are Worth the Headache," Toriano Porter, Independence Examiner – MO. (12/08/2007)
- "Safety Week Dorm-Room Burn Sheds Light on Fire Dangers," Amanda Grinivich, Daily Free Press, Boston University, - MA. (10/01/2007)
- "Fire Detectors Raise Alarm," Jennifer Latson, Newport News Times – VA. (11/21/2006)
- "Smoke Detectors Don't All Work Alike," Eric Weslander, Lawrence Journal-World – KS. (10/08/2006)
- "Too Important to Ignore," Jason Feifer, Worcester Telegram – MA. (04/23/2006)
- "Detector-Testing Issue Smolders; Some Alarms Miss 'Cold Smoke'," Caroline Mayer, Washington Post – DC. (11/24/1999)

Canada

- "Expert Attempts to Unravel Fire Deaths," Cindy Hartnett, Victoria Times Colonists - BC, Canada. (08/21/2007)
- "Some Smoke Detectors are Safer; Photoelectric Units Work Better for Smoldering Fires," Sarnia Observer, Sarnia, CA (02/29/2008)
- "Photoelectric Offer an Edge," Brian Gray, Toronto Sun, Toronto, ON, Canada. (04/09/2009)

- “”Alarms May Fall Short in Flagging Blazes,” Toronto Globe & Mail, Toronto Canada (03/06/2008)
- “Sprinklers Save Lives,” Brian Gray, Toronto Sun, Toronto, ON, Canada. (02/26/2008)

TELEVISION/MEDIA EXPERIENCE

SMOKE ALARM STORIES

United States

- Channel 5 – KING, Seattle, WA, “Alarm Bells Ring for Most Common Smoke Detectors,” expert commentary regarding difference between ionization and photoelectric smoke detectors. (03/09)
- Channel 4 – WFOR, Miami, FL, “A Cause for Alarm,” expert commentary regarding difference between ionization and photoelectric smoke detectors. (11/09)
- Channel 3 – WSHM, Springfield, MA, “Cause for Alarm,” expert commentary regarding difference between ionization and photoelectric smoke detectors. Set up test fires. (11/08)
- WSAV, Savannah GA, “What Smoke Alarms are safest?” expert commentary regarding difference between ionization and photoelectric smoke detectors. (05/08)
- Channel 3 – WISC, Madison, WI, “Fire Officials Compare Responsiveness of Smoke Detectors:” expert commentary regarding difference between ionization and photoelectric smoke detectors. (02/08)
- Channel 3 - WCAX, Burlington VT, “A Burning Issue for Fire Fighters:” expert commentary regarding difference between ionization and photoelectric smoke detectors. (01/08)
- Channel 5 - WTVF, Nashville, TN, “Putting Smoke Detectors to the Test:” expert commentary regarding difference between ionization and photoelectric smoke detectors. Set up test fires. (11/07)
- Channel 4 - WBZ, Boston, MA: A series of news reports covering Chief Fleming’s efforts to change city and state laws. Set up test fires. (07/07, 08/07, 09/07, 12/07)
- Channel 13 - WTHR, Indianapolis, IN, “Deadly Delay – Part Two:” expert commentary regarding difference between ionization and photoelectric smoke detectors. (05/22)
- Channel 31, WFX, Denver, CO: provided expert commentary for a series of news reports regarding ionization and photoelectric smoke detectors. (01/06).
- Channel 25, WFXT, Boston, MA “Deadly Detector” provided expert commentary for a news report regarding difference between ionization and photoelectric smoke detectors. Set up test fires. (11/05)
- Channel 11, WPXI, Pittsburgh, MA: provided expert commentary for a news report regarding ionization and photoelectric smoke detectors. Set up test fires. (11/98).
- 9NEWS, KUSA, Denver, CO: provided expert commentary for a news report regarding ionization and photoelectric smoke detectors. (05/98).

Canada

- Global TV News, Toronto, Canada: provided expert commentary regarding difference between ionization and photoelectric smoke detectors. (03/2008)
- W-Five, CTV, Ontario, Canada: provided expert commentary regarding difference between ionization and photoelectric smoke detectors. (04/98)

NON-SMOKE ALARM STORIES

- Discovery Channel Show – “Time Warp” 3 Episodes
 - * Dry Ice Bomb/”The Grease Fire” (10/30/08)
 - * Liquid Nitrogen/”Lights Up Fireworks” (11/12/08)
 - * Fire Extinguishers and Flashover Demonstration..
- NOVA, WGBH, Boston MA: provided expert commentary for an episode on fireworks safety. (06/99).
- Spokesperson for National Safety Council Campaign on Summer Firesafety, participated in nationwide satellite feeds to NBC affiliates. (6/98)
- History Channel “Wrath of God – Panic, Deadly Inferno:” provided expert commentary regarding three Place of Assembly fires: Iroquois Theater - Chicago, IL (1903), Cocoanut Grove, – Boston, MA (1942), and Happyland Social Club, New York, NY (1990). (07/97).

LEGAL EXPERIENCE

- Reverend Nathaniel Hayes, Adm., et al., v. Grossman's, Inc., et al. – Superior Court, Waterbury , Connecticut, CV-96-0122374-S.
 - Depositions given in, 1997 & 1998.
- Werner v. BRK Brands/Pittway Corp. et al., U.S. District Court, Western District. of Wisconsin, Case Type: 99 C0109 C.
 - Depositions given in 1999 & 2000.
- Julia Velez, et al. V. Stanley Mello, et al., Bristol Superior Court, Fall River, Massachusetts, Civil Action No. A99-00022.
 - Expert Consultation.
- Natasha Claybrook et al. V.BRK Brands, Inc. et al. – United States District Court for the Northern District of Alabama Western Division, Civil Action No. 98-C-1546-W.
 - Expert Consultation.
- Keith Dickerson v. Alabama Home Mortgage Company, Inc., et al., - Circuit Court of Jefferson County, Birmingham Alabama, CV –99-01303
 - Depositions given in 2002.
- Duplech in v. Redman Homes et al., Louisiana District Court, New Orleans, Louisiana, CV-98-0457.
 - Expert Consultation

- Janien Howell v. Clara Debow, & Pittway Corp. – Supreme Court of the State of New York, County of Bronx, New York, New York, # 8093/90.
 - Expert Consultation

- Murray et al v. Home Corp of Texas and Maplechase, Houston, Texas, Cause No. 2001-52816.
 - Expert Consultation

- Holland et al vs. BRK Brands Inc., Kidde Inc. & Home Depot USA – Civil Action No. CV-05-TMP-0325-S, U.S. District Court for the Northern District of Alabama, Southern Division.
 - Expert Consultation, “Daubert Approved,” Court Testimony 2008.

- Edward Brechibel, et al vs. Redman Homes. et al – Court of Common Pleas, Philadelphia County, PA – Court Case 3669. (2008)
 - Expert Consultation

- David Craig et al vs. Maurice Tunstall et al – Circuit Court of Mobile County, AL - CV – 2005 – 4109.
 - Expert Consultation