



SYSTECH FIRE PROTECTION LLC

WWW.SYSTECHFIRE.COM

139 Old Creek Road, Palos Park, IL 60464
Email: dale.wheeler@systechfire.com • Direct Telephone 703-477-5928

DALE R. WHEELER, P.E.

SPECIALTY AREAS

- Fire Protection System design, installation, inspection, maintenance, operation, failures:
 - Fire detection
 - Smoke detection
 - Carbon monoxide detection
 - Fire alarm
 - Central Station
 - Sprinkler systems – wet pipe, dry-pipe, pre-action, mist, antifreeze, fire pumps
 - Fire suppression systems
 - Smoke control
 - Sprinkler leakage, water damage, freeze damage, unwanted activation
 - Commercial kitchen cooking equipment, hood and vent, and associated fire suppression systems
 - Fire Sprinkler System and Fire Alarm System Inspection and Maintenance
- Fire and Smoke Barriers, including Underwriters Laboratories (UL) Standards, and ASTM Standards, Firestopping, Through-Penetration Systems
- Gas Detection Systems, Carbon Monoxide Poisoning
- Building Code, Life Safety Code, and Fire Code Compliance
- Building Materials, Fire Resistance Ratings,
- Fire Cause and Origin, Explosion, Fire Hazards
- Fire Spread, Smoke Spread
- Vehicle and Marine Fire Investigation
- Arson
- Human Behavior in Fire Conditions
- Means of egress, egress signage, emergency lighting
- Fire Modeling
- Building Codes, Fire Codes, National Fire Protection Association (NFPA) Standards, Underwriters Laboratories (UL) Standards, Factory Mutual Standards
- Cost analysis of fire damage, water damage, smoke damage
- Fire Department Response
- Insurance policy provisions
- OSHA Safety

ACADEMIC BACKGROUND, MEMBERSHIPS, & AWARDS

- B.S., Fire Protection and Safety Engineering, Illinois Institute of Technology, 1974
- Basic Code Enforcement/Building Inspection, Building Officials and Code Administrators (BOCA)
- Member-National Fire Protection Association (NFPA), Member-Health Care Committee, NFPA
- Member-Society of Fire Protection Engineers (SFPE)
- Fire Science Advisory Committee, Northern Virginia Community College
- Instructor-Fire Detection and Suppression Systems, Northern Virginia Community College
- Past President Wisconsin Arson Insurance Council

EXPERIENCE

Approximate number of careers cases: 241

Approximate number of career depositions: 74

Approximate number of career trial testimony: 36

Approximate number of career Alternative Resolution (Arbitration, Mediation): 28

CONTINUING EDUCATION COURSES

- BUILDING SYSTEMS
- FIRE EXTINGUISHERS
- INTERNATIONAL BUILDING CODE
- INTERNATIONAL FIRE CODE
- NFPA 101, THE LIFE SAFETY CODE
- NFPA 13, FIRE SPRINKLER SYSTEMS
- NFPA 25, MAINTENANCE OF FIRE SPRINKLER SYSTEMS
- NFPA 70, ELECTRICAL CODE
- NFPA 72, FIRE ALARM SYSTEMS
- FIRE AND SMOKE RESISTANT ASSEMBLIES
- INTERIOR FINISH AND FIRE
- FURNITURE AND FIRE
- ASBESTOS AWARENESS
- VOICE EVACUATION PRINCIPLES
- CONSTRUCTION TYPE
- OCCUPANCY CLASSIFICATION
- FALSE ALARM PREVENTION
- FIRE AND SMOKE DAMPERS
- CONSTRUCTION CLAIMS
- CONSTRUCTION DELAY ANALYSIS
- CARBON MONOXIDE DETECTORS
- ASBESTOS AWARENESS
- CONSTRUCTION COST AND DAMAGE ESTIMATING
- XACTIMATE TUTORIAL
- DELIVERY METHODS: DESIGN-BUILD VS DESIGN-BID-BUILD
- ENGINEERING ETHICS
- CONSTRUCTION CLAIMS – DELAY
- FIRE SCIENCE
- WORKING WITH BUILDING OFFICIALS AND INSPECTORS
- PROTECTING WATER SUPPLY SYSTEMS – BACKFLOW PREVENTION
- ANATOMY OF CONSTRUCTION DEFECTS
- GAS DETECTION SYSTEMS
- HUMAN BEHAVIOR IN FIRE CONDITIONS
- FIRE PROTECTION IN HISTORIC BUILDINGS
- DECKS, STAIRS AND RAILS
- ELECTRICAL TRANSMISSION AND DISTRIBUTION
- EXPLOSIVE AND FLAMMABLE CHEMICALS
- HAZARDOUS MATERIALS
- CONSTRUCTION ARBITRATION
- RESIDENTIAL SAFETY
- RESIDENTIAL FIRES
- OSHA SAFETY
- INCIDENT INVESTIGATION AND PRINCIPLES

CASE EXPERIENCE:

411 Chain Bridge Road, McLean, VA: Fire Protection expert services pertaining to unwanted fire sprinkler system activation in affluent executive residence. Technical topics included sprinkler system code requirements, freeze protection, sprinkler leakage, water damage, and installation provisions. (Analysis, report, 2007)

2120 P Street Associates LLC d/b/a Residence Inn Dupont v Robert F. Munroe Day School, Inc., Washington, D.C.: Analysis and expert services with regard to accidental damage to a sprinkler in a hotel room resulting in water flow and damages. Exam circumstances, fire sprinkler system installation details, proper response of hotel staff, fire department response, human response to emergency situations, and calculation of water flow, extent and cost of water damages. *Superior Court for the District of Columbia, Case No. 000381B.* (Analysis, 2021)

Abarullo v Venezuela, Bolivar Sate of Venezuela: Fire safety expert services with regard to a fire that occurred in the San Felix Prison which resulted in the death of 5 inmates. Analysis of fire protection requirements, fire safety deficiencies and fire protection systems. *Inter-American Court of Human Rights, Case No, 12.890.* (Analysis, report, 2020)

Ace American Insurance – Toll Brothers v Eastern Fire Protection Services, Inc., Upper Marlboro, MD: Expert services pertaining to a matter involving freezing and water leakage from a dry-pipe fire sprinkler system. Examine circumstances of the incident, requirements of NFPA 25, and proper fire sprinkler system inspection procedures. *U.S. District Court of Maryland, Case No. 8:17-cv-1821.* (Analysis, report, 2018)

Adcock v ABC Extinguishers, Inc., Crozet, VA: Expert Services with regard to allegations of improper mounting of portable fire extinguishers resulting in an injury. Examination of installation and requirements of NFPA 10. *Commonwealth of Virginia Albemarle Circuit Court, Case No. 003CL18000792-00.* (Analysis, 2018)

American Family Insurance, Eau Claire, WI: Investigation into vehicle fire cause and origin, with arson suspected. (Analysis, report, pre-2007)

Arango vs. Colonial Properties Trust, NC: Expert services with regard to an apartment fire in Carrboro, NC, involving a fatality. Analysis with respect to building and fire codes, building construction, fire spread, and smoke detector operation. (Analysis, report, deposition, 2010)

Arch Insurance v Triangle Fire, Miami, FL: Expert services pertaining to analysis of a commercial kitchen hood and vent fire suppression system as involved in a fire. Assignment involved determination of adequacy of the suppression system installation and maintenance. (Analysis, report, deposition, 2008)

Al Plaza Oil Leak, San Juan, Puerto Rico: Investigation of significant damage in a high rise building owned by Al Group in San Juan, Puerto Rico. Damage was the result of a fuel oil leak that was not detected by the oil sensor connected to the building fire alarm system. (Analysis, report, 2011)

Alheim v Kenvin Zangroniz, Miami, FL: Investigation and expert services for case involving alleged activation of smoke detector by use of electronic cigarette in a large shopping mall allegedly creating public panic and injuries. Investigate and analyze condition of smoke detectors, effect of dust and debris in smoke detectors, sensitivity of smoke detectors and likelihood of activation of fire alarm system. Analyze human behavior in fire conditions including potential panic reaction. *Circuit Court of the Seventeenth Judicial Circuit, Broward County, Florida, Case No. 19-026190 (04)*. (Investigation and analysis, 2023)

Bay Harbor Club, Bayonne, NJ: Provide expert fire protection engineering to evaluate and analyze the cause of repeated leaks in fire sprinkler system. Arrange test and conclude cause to be Microbiologically Influenced Corrosion (MIC). Assist Condominium Association in determining that the installation contractor was responsible, design and oversee repairs, and avoid litigation. (No litigation, 2012)

Bailey vs Monitronics, Jackson, MS: Expert services pertaining to residential fire with one fatality. Identification of applicable code criteria, analysis of fire spread and growth, analysis of fire alarm system response, fire department response, effect on the elderly occupant of the building, create fire model. *U.S. District Court, Southern District of Mississippi, Case No. 3:09cv158HTW-LPA*. (analysis, report, deposition, 2014)

Bedford Residence, CT: Legal expert services for a fire cause and origin and construction defects involving analysis of construction and code compliance of a residential fireplace, effect of deficiencies on fire spread. (Analysis, report, deposition, pre-2007)

Body vs. Ancona, WI: Expert services to determine code requirements pertaining to smoke detectors, model fire and smoke development, and analysis of human behavior in a loss of life fire in Wisconsin. (Analysis, report, deposition, 2008)

Boyce v Central Security, Memphis, TN: Expert services to evaluate purpose and operation of a residential fire and security alarm system pertaining to a fire in a single-family residence. (Analysis, report, deposition, 2011)

BP Oil vs. City of Alexandria, VA: Expert witness for the petroleum facility regarding fire safety and code compliances regarding a petroleum facility. (analysis, report, pre-2007)

Brown v Fern Preservation and FJC Security, East Orange, NJ: Fire Protection and Fire Expert services regarding a high-rise apartment building fire with fatalities. Created computer model of fire addressing fire spread, smoke development, temperature rise, and toxic gases. Investigate fire scene. *Superior Court of New Jersey Law Division, Essex County, Case No. ESX-L-3138-14*. (Analysis, report, 2016)

Children’s Hospital of Baltimore, MD: Legal expert services for a fire cause and origin including extent of damage. (Analysis, report, pre-2007)

Christian Day School vs. Fairfax City, VA: Expert witness for the school regarding building construction, occupancy classification, fire alarm, and sprinkler systems. (Analysis, report, deposition, pre-2007)

City Utilities, Springfield, MO: Investigation into vehicle fire cause and origin involving a public-passenger bus. (Analysis, report, pre-2007)

Coakley and Williams Construction LLC v Federal Fire Protection Corporation, McLean, VA: Professional expert services in a case involving failure of a recently installed fire sprinkler system due to separation of a set-screw “zip” flange from sprinkler piping resulting in significant water damage. Address code requirements, coordination of subcontractors, set-screw flanges, general contractor’s responsibilities, installation practices and procedures. *United States District Court Eastern District of Virginia – Alexandria Division, Civil Case No. 1:24-cv00763.* (Analysis, report, deposition, 2024).

Coastal Fire Protection, Baton Rouge, LA: Fire protection expert services with regard to an unwanted sprinkler system activation in a high-rise building. Performed analysis of reason for sprinkler activation, lack of fire alarm reaction, and water damage. (Analysis, report, deposition, 2011)

Collier vs. Mountain State Inspection Services, WV: Expert services to determine code requirements and inspection responsibilities pertaining to smoke detectors in a loss of life fire. (Analysis, report, deposition, pre-2007)

Commonwealth of Virginia v Charles Kessler, Roanoke, VA: Arson Investigation, cause and origin determination for Attorney for Defendant in a case involving alleged arson. *Circuit Court for the City of Roanoke, Case No. CR14-1086.* (Analysis, report, 2014)

Commonwealth of Virginia v Sherry Lee Cruz, Winchester, VA: Arson investigation, analysis and expert witness services for Attorney for Defendant in a case involving alleged arson in a residence and the death of one occupant. Analyze scene, laboratory reports and existing documentation. *Winchester Circuit Court, Case No’s CR13001070-00 and CR13001071-00.* (Analysis, report, 2014)

Commonwealth of Virginia v Tony Lawhorn, Roanoke, VA: Arson investigation, analysis and expert witness services for Attorney for Defendant in a case involving alleged vehicle arson. Analyze laboratory reports and existing documentation, prepare report of findings. *Circuit Court City of Roanoke, Case No. CR15-1335.* (Analysis, report, 2016)

Corcoran Prison, CA: Legal expert services for design, construction, operation, maintenance, and testing of fire alarm systems. (Analysis, report, pre-2007)

Daffan Inc. v County of Arlington, VA, Arlington County, VA: Expert witness services to analyze accuracy, code compliance and thoroughness of construction drawings and specifications with regard to fireproofing and fire alarm systems. *Arlington County Circuit Court, Case No. 13-1915.* (Analysis, report, 2014)

Davis v Sanyaolu, Chicago, IL: Fire Protection Engineering expert services with regard to a fire with injuries that occurred in a single-family rental home. Issues included smoke alarms, fire code requirements, fire cause and origin, gas furnace maintenance requirements, high-limit safety switches, runaway furnaces, and ignition of wood structural members by radiant heat. *Circuit Court of Cook County, Case No. 19L5616.* (Analysis and Statement, 2023)

Deanne A. Ellis v United States of America, Center for Disease Control, Atlanta, GA: Expert witness services to analyze code requirements pertaining to exit sign and exit sign mounting requirements. *U.S. District Court for Northern District of Georgia, Atlanta Division, Case No. 1:06-CV-00363-ECS.* (Analysis, report, deposition 2008)

Duah v Buzzoto, Fairfax, VA: Expert services with regard to unwanted activation of a sprinkler system in an apartment building, water damage assessment, effect of weather conditions, anti-freeze systems, sprinkler system maintenance and repair practices. *Circuit Court for Fairfax County, Case No. CL-2011-008827.* (Analysis, report, deposition, 2012)

Duffy/Schuda v PFB Center, Ottawa, IL: Expert services to analyze a fire with fatalities that occurred in a single-family residence. Determine cause and origin, effect of disabled smoke detectors, impact of carbon monoxide detectors in lieu of smoke detectors. *Case No, 18-cv-48, US District Court, Northern District of Illinois, Eastern Division.* (Analysis, report, 2020)

Eagles Landing Fire Sprinkler System Evaluation and Repairs, Charlottesville, VA: Provide fire protection engineering to an apartment and condominium complex of 10 buildings with 280 units totaling 534,310 square feet. The facility is protected by automatic fire sprinkler systems that had experienced corrosion degradation in the sprinkler systems involving many leaks at sprinkler heads. The sprinkler systems were installed in 2004 using glycol antifreeze throughout each system because of sprinkler piping that extensively runs through unheated areas. Provided existing conditions field investigation, written analysis, preparation of bid documents and construction period services to correct sprinkler system deficiencies. (No litigation, 2021)

E&P Enterprises v Michael Cummins, Baltimore, MD: Fire Cause and Origin analysis, fire spread analysis and code consulting with regard to a fire that occurred in an apartment and commercial building which spread to an adjacent building. (Analysis, report, 2020)

Eldridge, Almonte, and Benevides v KASL-Seabreeze Apartments and Subhash Agrawal, Dennis, MA: Expert services with regard to apartment building fire with injuries. Analysis of condition of older fire alarm system, operation of fire alarm system in the fire, fire alarm system maintenance and repairs, fire code requirements, failure rate of individual electronic components. *Barnstable Superior Court, Civil Action 14272CV00363, and 14272CV00535.* (Analysis, report, 2018)

Emgee Realty v A&B Security, Laru Brighton, and Verizon, Inc., Long Branch, NJ: Expert services addressing a fire in a building spreading to the adjacent building, destroying both. Issues analyzed include fire spread in archaic balloon-type construction, activation of fire alarm system, transmission to central station, fire department response, fire department operations. Created fire model. *Superior Court of New Jersey, Monmouth County Law Division, Case No. L-4219-07.* (Analysis, report, 2015)

Emseal Joint Systems v Schul International Company: Expert services with regard to a patent dispute involving fire rated joint systems. Compare systems and regulations of Underwriters Laboratories Standards, 263, 273, and 2079. (Analysis, report, 2018)

Erie insurance Property and Casualty Company as subrogees of WVU Lofts, LLC v Spectrum Fire Protection, Inc., Morgantown, WV: Professional expert services pertaining to multiple freezes of fire sprinkler systems in 14 buildings used for housing of university students. Analysis addressed weather conditions, dry-sprinkler requirements, insulation requirements, cost estimates for water damage repair, thermostat capabilities, and general installation of sprinkler system subject to freezing conditions. *Circuit Court of Monongalia County, WV, Case No. 15-C-288.* (Analysis, report, 2018)

Fairfield Inn Sprinkler System, Chesterfield, VA: Investigation into failure of dry-pipe sprinkler system involving freezing and subsequent water damage as well as determination of installation and maintenance errors pertaining to the cause of the loss. (analysis, report, 2009)

Feaganes, Robert v Antoun Wassef, Palm Bay, FL: Expert services with regard to a household fire involving residential kitchen range including electrical issues, cooking oil combustibility, and cause and origin of the fire. *Circuit Court of the Eighteenth Judicial Circuit in and for Brevard County, Florida, Civil Division, Case No.: 05-2023-CA-043645.* (Analysis, Summary of Opinion, 2024)

Fireguard LLC v ATOTL, LLC, Fairfax County, VA: Expert services pertaining to fire sprinkler system design and installation of fire sprinkler system in high-rise multi-use building in Tysons Corner, VA. Determine duties of sprinkler system designer as compared to sprinkler system installer with regard to technical issues. (Analysis, report, mediation, 2017)

Fire Investigation, James Forrest, Richmond, VA: Expert witness services to determine the cause of a fire and damage to the roof and other areas of a residence. (Analysis, report, pre-2007)

Fire Watch Services, Manassas, VA: Provide professional fire protection engineering/ expert witness services, pertaining to failure of dry-pipe and wet-pipe fire sprinkler systems, including site observation, review of applicable codes and criteria, presenting of findings and opinion, and preparation for depositions. (Analysis, report, deposition, 2007)

Florida State College at Jacksonville, Jacksonville, FL: Investigation into cause of sprinkler system leakage and pipe corrosion. Analysis of Microbiologically Influenced Corrosion (MIC) as cause. Supervise water sampling and laboratory testing for MIC. Development of remediation efforts to prevent future occurrences. (Analysis, report, 2008)

Garcia v County Sanitation District #2 of Los Angeles County, Los Angeles, CA: Professional expert services in a case involving an injury while testing a fire pump. Examine procedures, equipment, supervision, code requirements, and industry standard practices. *Superior Court of the State of California, County of Los Angeles, Central District, Case No. 19STCV28466.* (Analysis, report, 2023)

Graham v Stone, Stafford, VA: Investigation and expert witness services pertaining to destruction of residential wood deck by fire. Issues addressed include use of fireworks and ignition of wood decking. Investigate fire scene. *Circuit Court of Stafford County, Case No. CL15-210.* (Analysis, report, deposition, trial testimony 2017)

Grand Marquis Hotel, Wisconsin Dells, WI: Professional fire protection expert and expert witness services regarding technical assistance in evaluating fire protection and code issues in connection with a fire at the hotel. Issues include human behavior in fire conditions, fire and smoke development, construction, fire detection and alarm system, audibility of fire alarm system, and smoke compartmentation. (Analysis, report, deposition, trial testimony, pre-2007)

Greenbaum vs. Boardwalk Apartments, Lawrence, KS: Expert services regarding building and fire code analysis, arson evaluation, and fire spread analysis. (Analysis, report, deposition, 2010)

Hanlon v Premiere Marine Parts & Services LLC, Baltimore, MD: Professional expert services pertaining to fire and explosion aboard a boat, with property damage and injuries. Review case document including gas-sending equipment. *Circuit Court of Baltimore, Case No. 03C16009302.* (Analysis, report, 2017)

Hartford Fire Insurance Company v Pye-Barker Fire & Safety, LLC, Las Vegas, NV: Professional expert services with respect to allegations that a fire sprinkler company improperly repaired a portion of a sprinkler system leading to failure of the CPVC piping resulting in unwanted water discharge. Analysis of code requirements and installation practices and procedures. *District Court of Clark County Nevada Case No. A-22-861577-C.* (Analysis, report, deposition, 2024)

Hawkins, Harmon, Zamaria, and Guire v Emerald Point LLC and The Breeden Company, Virginia Beach, VA: Expert services with regard to long-term leakage of Carbon Monoxide in a multi-family apartment with injuries. Analysis of source of leakage, cause, migration, and responsibility. Analysis of proper methods for detection of leaks, training, repairs, maintenance, and failure of natural -gas heating systems. *Circuit Court of the City of Virginia Beach, VA, Case number CL14-5223.* (Analysis, report, deposition, 2018)

Holmes vs. Narver, New York, NY: Legal expert services regarding fire cause and origin, Central Station response. Performed analysis of Fire Department response. (Analysis, report, deposition, 2007)

Hurtado v Three Fountains One LLC, Houston, TX: Fire protection and expert witness services with respect to an apartment building fire involving arson and severe injury to an apartment resident. Issues investigated and analyzed include fire sprinkler systems, fire detection and alarm systems, fire safety and means of egress. *District Court of Houston, TX, Case No. 2011-40109.* (Analysis, report, deposition, 2012)

Ireland v Walsh, Westover, WV: Expert services pertaining to fire in apartment building involving injuries. Investigation and analysis with regard to the spread of fire, means of egress, fire escapes, means of egress marking, exit signs, code compliance, smoke and heat detectors. *Circuit Court of Monongalia County, WV, Case No. 15-C-812.* (Analysis, report, deposition, 2017)

International Paper Co, v Boggs & Poole Contracting Group, Mansfield, LA: Expert fire protection engineering services with regard to a fire in an outdoor rolled paper storage facility. Examine fire sprinkler system design, code requirements, construction procedures for laying underground pipe, effect on pipe from insect while pipe is stored outside, fire cause and origin, fire spread, facility operator fire-fighting training, equipment, and procedures, fire department response. *Thirty-ninth Judicial District Court, Red River Parish, Louisiana, Docket No. 36147.* (Analysis, report, deposition, 2016)

Islas v Bio Pappel, Rio Grande City, TX: Analysis of a fire that occurred in an outdoor wastepaper facility that caused damage to adjacent buildings. Examine fire protection requirements, fire spread in wastepaper storage, and measures taken by the operator of the facility. *District Court of Starr County, Texas, Case No: DC-17-1.* (Analysis, report, 2020)

JC Corporation v Interstate Fire & Safety Equipment Company, Stamford, CT: Investigate fire based on documents, photographs and reports by others for a fire that occurred with the scene closed to prior to engagement. The fire was in a restaurant property. Issues involve commercial kitchen hood, duct, and fire suppression systems, use of plasma cutter in removal of the kitchen hood, fire cause and origin and licensing of workers. (Analysis, report, deposition, trial testimony, 2012)

(Hou Case) Meili Hou, Next of Kin of Jerry K. Hou, Deceased v The Park at Forest Oaks Apartment Complex, Capital Assets, Inc., and Foxfire Investors, LLC, Tulsa, OK: Expert Services with regard to a fire in a multi-story apartment building that resulted in a fatality. Issues investigated include code compliance, fire sprinklers, fire detection and alarm, smoke alarm age and maintenance, means of egress, exit signage, emergency lighting, lack of no-smoking provisions, and fire/smoke spread. *District Court of Tulsa County, State of Oklahoma Case No. CJ-2020-00002. (Analysis, report, 2022)*

King v Steward Towers, Laurel, MD: Expert services with regard to residential kitchen fire and explosion with injuries. Analyze appliance operation, gas leak, fire and explosion. *Circuit Court for Prince George's County, MD, Case No. CAL16-18490. (Analysis, report, deposition, 2017)*

Konz Estate v Raybuck Dwelling Trust, Clearfield County, PA: Expert services with respect to apartment fire involving a fatality. Issues include arson, means of egress deficiencies and lack of fire protection systems in buildings built in 1914. *Court of Common Pleas of Clearfield County, PA, Case No. 2011-676-CD. (Analysis, report, 2013)*

Lake Laura Fire Investigation, Bayse, VA: Fire investigation to determine cause and origin at a condominium. Issues involve two separate electrically heated saunas which appeared to have both caught fire on separate floors of the condominium. (Analysis, report, 2008)

Latimer v VIT, Norfolk, VA: Fire Protection Engineering and Expert Witness services with regard to fatal accident involving underground fire protection system piping. Analysis of shutdown and disconnect procedures, pipe and fitting connections and anchoring. (Analysis, report, deposition 2009)

Lexington Insurance Co. vs. Starflight Enterprises Inc., Columbia, MD: Expert witness services with respect to cause and origin of a fire at an apartment complex. (Analysis, report, deposition, trial testimony, pre-2007)

Longberger Company, Day Care Center, Columbus, OH: Legal expert services for a dry-pipe sprinkler system failure resulting in freeze damage to system and water damage to facility. (Analysis, report, pre-2007)

Longberger Company, Columbus, OH: Investigation into cause and origin of vehicle fire in a corporate-owned truck. (Analysis, report, pre-2007)

Louisiana State v Honeywell, New Orleans, LA: Expert Services with regard to sprinkler system activation with no fire event in a high-rise office building. Analysis of cause of fire sprinkler system activation and fire alarm system defects causing no alarm signal being reported to central station. Findings include temperatures in excess of acceptable ambience for sprinklers and multiple fire alarm system faults. *Civil District Court Parish of East Baton Rouge, Case No. 08-06697. (Analysis, report, 2012)*

Mackensie Union Place Fire, Colorado Springs, CO: Expert analysis of a fire in a commercial kitchen. Evaluate failure of Ansul hood suppression system. (Analysis, report, 2008)

Maegden v United States of America, GA: Expert witness services with regard to case involving personal injury due to slip/fall. Examine code requirements pertaining to exits, stairs, arrangement and materials, slip-resistance, coefficient of friction of floor materials. *U.S. District Court Northern District of Georgia Rome Division, Case No. 4:07-cv-00232-HLM.* (Analysis, report, deposition, 2009)

Maki Cabin Fire Damage Determination, Chippewa Falls, WI: Analysis of damages in a dispute with an insurance company as to the cause of damage being due to fire in an adjacent structure. (Analysis, report, 2021)

Marriott Hotels vs. Grinnell Sprinkler Company, Baltimore, MD: Expert witness services regarding sprinkler system installation, polybutylene sprinkler pipe material, material storage, and sprinkler system activation. (Analysis, report, deposition, pre-2007)

Martinez Fire, El Prado, NM: Allstate intra-company dispute. Expert services to investigate and conduct an analysis of a fire in a structure that included a commercial building attached to a residence. Determination if code violations pertaining to the construction of the commercial building resulted in fire damage to the residence. (Analysis, report, 2015)

Maryland v Young, Baltimore, MD: Expert services with regard to accusation of Arson by Deable Young. Address fire science, fire investigation, Application of National Fire Protection Association Standard 921, Standard for the Investigation of Fire and Explosion, practices regarding collection and preservation of evidence. *Circuit Court for Montgomery County, Maryland, Case No. C-15-CR-22-000220.* (Analysis, report, 2022)

McDavid v Reserve Square Apartments, Cleveland, OH: Fire Protection expert services in a case involving a fatality in a mixed-use retail and apartment building. Analysis of building and fire code requirements, smoke detector and fire alarm requirements, operations and adequacy of smoke detectors and fire alarm system, security guard services response, examination of smoke detectors involved in the fire. Development of a computerized fire model of the event indicating time of ignition, smoke development and progress, heat build-up, operation of installed and theoretical smoke detectors, threats to life of deceased person including carbon monoxide levels by time, oxygen depletion by time, descending smoke layer by time and temperature by time. (Analysis, report, deposition, 2010)

McFadden v Prism Hotels, Richmond, VA: Expert services with regard to false fire alarm system activation incident with injuries. Address technical issues regarding fire alarm system maintenance, precautions during construction, stair code compliance, stack effect, slip and fall, means of egress lighting. *Circuit Court for the City of Richmond, Case No. CL-12-5468.* (Analysis, report, deposition, trial testimony 2017)

McSteen v Dane Construction, Cleveland, OH: Fire Protection expert services in a case involving a fatality from a fire in an apartment building. Analysis of building and fire code requirements, smoke detector and fire alarm requirements, operations and adequacy of smoke detectors and fire alarm system, fire extinguisher requirements, fire doors, fire barriers and separations. (Analysis, report, 2009)

McLean Phase I LLC v Hoar Construction LLC, McLean, VA: Expert services with regard to fire sprinkler system design documents accuracy and delay damages. *Circuit Court for Fairfax County, Case No. CI 2018-04492.* (Analysis, report, deposition, 2019)

Miami Metropolitan Correctional Center, Cogefar-Impresit USA vs. U.S. Federal Bureau of Prisons, Miami, FL: Expert review and expert witness services for automatic sprinkler systems and fire detection and alarm systems. (Analysis, report, deposition, pre-2007)

Mission Chateau v Falcon Fire Sprinkler, LLC, Kansas City, KS: Expert services for case involving fire sprinkler system discharge due to freezing conditions. Field investigation and analysis of installation defects, annual inspections, and cause of pipe fracture. *District Court of Johnson County, Kansas, Civil Court Department, Case No. 21-cv-05684.* (Analysis, deposition, 2023)

Myrtle Beach Condominium & Hotel, Myrtle Beach, SC: Expert fire protection engineering services to investigate a possible sprinkler system deficiency related to sprinkler system piping damage and a possible improperly sealed or improperly fire stopped penetrations of fire rated construction assemblies. (Analysis, report, pre-2007)

New York City Homeless Shelter, NY: Expert witness for fire protection and life safety survey, report/documentation, and design recommendations for several homeless shelters including Fort Washington Housing, Franklin Armory Housing, Sumner Armory Housing, Flushing armory Housing, and Atlantic Armory Housing Facilities. (Analysis, report, trial testimony, pre-2007)

NSK Corporation v Oberle & Associates, IN: Fire cause and origin determination in a warehouse, woodworking, and metalworking facility. Determination developed based on documents and photographs due to scene not available at the time of engagement. *U.S. District Court Southern District of Indiana, Indianapolis Division, Case No. 1:09-cv-00052-SEB-JMS.* (Analysis, report, 2011)

Oak Forest Bowl Fire, Oak Forest, IL: Expert services with respect to a fire in a bowling alley. Address fire cause and origin, cigarette receptacles, insurance company calculation of actual cash value, replacement value, insurance policy provisions, bowling alley lane construction and value. (Analysis and report, 2024)

OSHA v BWX Technologies, Lynchburg, VA: Expert Fire Protection services with regard to a flash fire with a fatality in a plant operated by BWXT, a nuclear component supplier to the U.S. Government. Issues investigated include the use and operation of a super-compactor, smoke detectors, fire sprinklers, compaction of steel drums, safety switches, safety protocols, isopropyl alcohol, and flash-fire ignition. *Occupational Safety and Health Administration - Inspection #1482114 and Occupational Safety and Health Review Commission Docket No. 21-0075.* (Analysis, report, 2021)

OSHA v A-Gas, Bowling Green, OH: Expert services with respect to an industrial accident with injuries that occurred while A-Gas employees were transferring Halon gas from a storage cylinder to another tank through decanting. Issues included safety protocols, failure of brass pipe fittings, use of proper fittings, and restraint of tanks under pressure. *Occupational Health and Safety Administration - Inspection #1411814 and Occupational Safety and Health Review Commission Docket No. 20-0018.* (Analysis, report, and deposition, 2021)

Pacific Insurance v Allied Barton Inc., Miami, FL: Fire Protection Engineering expert services with regard to water damage from a fire sprinkler system in a high-rise office building. Technical topics include reasons for sprinkler activation, sprinkler head defects, water damage, water spread, and actions by contract security officer. (Analysis, report, 2008)

Pyle v Boone, Annapolis, MD: Investigation into large residential fire involving multiple fatalities. Determination of electrical fault cause of fire igniting 15 ft Christmas tree. (Analysis, report, 2016)

Quay Condominium v Simplex Grinnell, Ocean City, MD: Fire Protection Engineering and expert services with regard to multiple, repeated unwanted sprinkler system activation in luxury condominium high-rise building. Determination of installation defects causing unwanted sprinkler activation. Design and construction supervision of repairs to sprinkler system. Expert services in support of lawsuit. (Analysis, report, deposition, 2012)

Perulero v Everett Bluffs LLC, Everett, WA: Expert services pertaining to an apartment building fire leading to injuries. Analysis included fire alarm system requirements, audibility of fire alarm horns, human behavior in fire conditions, adequacy of means of egress, calculation of available and actual time to exit, deficiencies in computer model of fire created by others using Fire Dynamic Simulator. *Superior Court of the State of Washington in and for the County of Snohomish, Case No. 17-2-12018-31.* (Analysis, report, deposition, 2023)

Rajwant Dhillon, Lolita Tan, and the Estate of Remedios Reites v Oly-Ida Emerald Place, Seattle, WA: Expert services with regard to a fire with fatalities in an apartment building. Analyze code compliance, fire detection systems and fire department response. (Analysis, report, 2012)

Residential Fire Hazard, Virginia Beach, VA: Expert services with regard to claim of Inadequate Shelter by the Department of Social Services alleging fire hazards in a single-family residence in Virginia Beach. Analyze site conditions compared to State of Virginia residential Building Code. Appear and testify before Department of Social Services Hearing. (Analysis, report, 2012)

Robertson v Chippenham Townhomes, Richmond, VA: Expert services pertaining to a natural gas explosion in a laundry room associated with a townhome complex in which a resident suffered severe injury. Analysis of source of gas leak, gas pipe condition and installation code violations, responsibility of facility Owner, Management Company, Laundry Equipment Service Vendor, and appliance manufacturer. *Circuit Court for the City of Richmond, Case No. CL14-4511-07.* (Analysis, report, deposition, 2015)

Ronald Reagan Building Fire, Washington, DC: Fire Protection Engineering expert services pertaining to fire in public areas of Federal Building. Analysis addressed fire cause and origin, kitchen hood and vent fire issues, hood and vent cleaning, fire spread, and code requirements. (Analysis, report, 2016)

Rubatex Corporation, Bedford, VA: Legal expert services regarding fire resistance and flame spread of building materials. Direct fire test in accordance with ASTM Standard E-119/UL 263. (analysis, report, pre-2007)

SC Diamond v Stanley Associates, Virginia Beach, VA: Expert services with regard to a fire in a large warehouse. Fire cause and origin, evaluation of sprinkler system operations, fire department operations, metal halide lighting fixtures, fire spread, and storage arrangement. (Analysis, report, deposition, 2010)

Slater vs. District of Columbia Housing Authority, Washington, DC: Expert Witness services pertaining to a fire with fatalities in a subsidized residential building. Issues investigated and opined upon include smoke detectors, smoke detector activation, testing and inspection of smoke detectors, means of egress, security bars on means of egress, fire cause and origin, fire and smoke spread, human behavior in a fire, cigarettes as a cause of fire, fire safety inspection requirements, fire safety inspector training and fire safety inspector supervision. *Superior Court of the District of Columbia, Civil Divisions, Case No. 2017CA00192B.* (Analysis, report, deposition, 2019)

Smithsonian vs. Northern Fire Protection, Washington, DC: Expert witness services to investigate the apparent unwanted activation of a sprinkler installed at the Smithsonian Institution. Investigation of water damage. (Analysis, report, pre-2007)

Sommers vs. Infotech, New York, NY: Expert witness for the high-rise office building concerning fire alarm systems, smoke detection, smoke detectors, and central monitoring system. (Analysis, report, pre-2007)

SWA Construction Co. v K&E Sprinkler Co., Richmond, VA: Expert witness services regarding sprinkler system and CVPC pipe conformance with applicable Fire Protection and Life Safety codes and standards. (Analysis, report, deposition, pre-2007)

Travelers Property Casualty Company of America v FireGuard, LLC, Baltimore, MD: Expert services for case involving fire sprinkler system discharge due to pipe failure. Analysis of installation defects, annual inspections, and cause of pipe fracture. *Circuit Court of Baltimore City, Case No. 24-C-22-002146* (Analysis, report, 2023).

Trinh v India Grocers, Cleveland, OH: Expert services pertaining to a fire in a mercantile grocery situated in a strip-mall. Evaluate cause and origin of a fire, responsibility for maintenance of electrical lighting fixtures and storage practices. *Court of Common Pleas Cuyahoga County, OH, Case No. CV09684704*. (Analysis, report, 2010)

Travelers v FireGuard, Baltimore, MD: Fire Protection expert services with respect to unwanted water discharge from a dry-pipe sprinkler system causing damage to a building and contents. Examine claims of negligence, proper care and duty of sprinkler inspection company, and code requirements. *Mediation*. (Analysis, report, participation in mediation, 2023)

Turner Construction Company v Washington Metropolitan Area Transit Authority, Fairfax, VA: Expert services with regard to fire sprinkler system design documents accuracy and delay damages. *Arbitration*. (Analysis, report, deposition, 2019)

United States v David Johnson, Washington, D.C.: Expert witness services for the analysis of a fire alleged to be arson. Analyze previous investigations, previous conclusions, cause of fire, and spread of fire. (Analysis, report, 2018)

United States v Jeremiah Jones, Baltimore, MD: Expert witness services for the Federal Department of Public Defender. Examine fire alleged to be arson. Analyze previous investigations, previous conclusions, cause of fire, and spread of fire, electrical equipment involved, fire department operations, and damage estimates. (Analysis, report, deposition, 2010)

VisionOnline v Fairway Executive Office Condominiums, Fairfax, VA: Fire Protection Engineering expert services with regard to failure of fire sprinkler system resulting in water damage. Work included analysis of cause of failure including backflow preventer, code requirements pertaining to maintenance and inspections of fire sprinkler systems including NFPA 25. (Analysis, report, deposition, 2014)

VUE Condominiums, Inc. v H&S Property Development Corporation and Armada Hoffler Construction Company v CML Fire Protection, Baltimore, MD: Investigation and professional expert services with regard to installation of fire sprinkler system in high rise residential building. Develop opinions as to applicable duties and standard of care for installation of sprinkler system and penetrations of fire and smoke rated barriers. *Circuit Court of Baltimore City, MD, Case No. 24C15-004949CN*. (Analysis, report, 2017)

Walker vs. Baker, Romney, WV: Expert witness services to investigate the cause of a fire at a residence. (Analysis, report, pre-2007)

Watson Grinding & Manufacturing v Teledyne Technologies Inc. & Teledyne Detcon, Inc., Houston, TX: Expert services pertaining to an explosion and fire, with loss of life and mass destruction of property in a coatings operation using polypropylene as fuel in a thermal coating process. Address proper design and maintenance of flammable gas detectors, calibration methods, and appropriate communication of system defects and failures. *District Court of Harris County, Texas 11th Judicial District Master Docket No. 2021-15294.* (Analysis, report, deposition, 2022).

West Virginia v Ronald Smith, Hinton, WV: Expert Services to investigate case involving accusation of arson in a residential building involving two fatalities. Review available evidence, cause and origin report by others, photographs, and witness statements. Prepare report of findings. *Circuit Court of Summers County, WV, Case No. 15-F-23.* (Analysis, report, 2017)

White (Kelli) v Watergate/Treehouse Associates t/a Linkhorn Bay Apartments, Virginia Beach, VA: Expert Services to investigate a fire in a 1970's-era multi-story apartment building causing injuries. Topics included Building and Fire Code requirements, obsolete BOCA Code, obsolete Southern Building Code, smoke detector placement and activation, means of egress, cigarette smoking regulations, and fire spread. *Virginia Beach Circuit Court, Virginia Beach, VA, Case No. CL14-5222.* (Analysis, report, deposition, 2018)

Whitnal Edge Condominium, Milwaukee, WI: Legal expert services for automatic sprinkler system. (analysis, report, pre-2007)

Wood Expressions Fine Custom Cabinetry, Inc. v AAA Alarm & Security, Inc., ASI Communications, Inc. and AZ Security Control, Phoenix, AZ: Professional fire protection expert services in a case involving fire alarm system failure, fire alarm monitoring system failure, and central station monitoring company failure. *Superior Court of Arizona, County of Maricopa, Case No. CV2013-004106.* (Analysis, report, deposition, 2022).

PROFESSIONAL EMPLOYMENT HISTORY

- Systech Fire Protection, LLC, Palos Park, IL and Ruther Glen, VA, Principal, 2007 to Present
- Systech Group Inc., Reston, Virginia, Principal, 1991 to 2007
- Rolf Jensen & Associates, Inc., Fairfax, Virginia, Engineering Manager, 1985-1991
- Wisconsin Insurance Plan, General Manager, 1982-1985
- Village of Westhaven, Illinois, Building Commissioner, Building Inspector, 1976-1984
- Insurance Services Office of IL and WI, Inspector, Engineer, Automatic Sprinkler System Customer Service Representative, Assistant Supervisor and Assistant Manager, 1974-1982

SELECTED PUBLICATIONS AND SPEAKING ENGAGEMENTS

- Fire Safety in Atrium Buildings
- Fire Safety in Exhibition Halls
- Adoption of the BOCA Code in Washington, D.C.
- Sacred Trusts-Protection of Historical Churches
- Retrofitting: Planning and Implementation of Security & Fire Systems, *Security Technology & Design*

PROFESSIONAL ENGINEERING REGISTRATIONS

State	Registration	State	Registration
California	FP1516	New Jersey	24GE04988400
Connecticut	23096	North Carolina	14784
Delaware (inactive)	7633	North Dakota (inactive)	PE-5217
District of Columbia	8926	Ohio	E-59915
Florida	PE 0044616	Pennsylvania	PE-037624-R
Georgia	PE 036402	South Carolina	12065
Illinois	062037418	Tennessee	121744
Louisiana	26436	Texas (inactive)	84969
Maryland	16211	Virginia	018501
Minnesota (inactive)	25806	Washington	35562
Mississippi	21117		
Missouri	PE-2013000183	West Virginia	10477
New Mexico (inactive)	14333		
New York	2621729	Wisconsin	E-20562