



RESUME OF MICHAEL M. FITZ, P.E.

SUMMARY

Registered Professional Engineer with 27 years of engineering experience, specializing in fires, explosions, fire protection, civil, electrical and mechanical failure analysis with consultation in over 1000 cases and testifying in more than 130 arbitrations, mediations, depositions, and trials.

PROFESSIONAL EXPERIENCE

MDE Inc. - Seattle, WA (1985 to Present)

President and Principal, (2005 to Present), Vice President and Principal (1985 – 2004)

Forensic Engineering – specializing in fires, explosions, large loss expert coordination, fire protection, civil, electrical and mechanical failures. Certified fire investigator and fire protection specialist including origin & cause determination, examination, testing and engineering analysis involving residential, commercial, industrial, marine, wildland, vehicles, appliances, equipment and machinery. Some specific examples include heaters and furnaces (propane, natural gas, electric, wood, gasoline and oil), coffee makers, dryers, ranges, smoke and gas detectors, linseed oil based products, fireworks, cars, bulldozers, trucks, boats and trailers. Failure analysis includes controlled atmosphere and cold storage, pumps, valves, pipes, HVAC equipment, fans, insulation and roofing systems. Other aspects of investigation include hazard analysis, fire spread, building construction and code analysis. Cases are almost evenly split between defense and plaintiff and include some criminal work. **Design & Development** – of machines for winding and payout of fiber optic cable and wire including concepts, mechanical design, testing of machine operation and product performance, smoke generator for airflow visualization, packaging systems, conveyors, material handling machinery and presses including concepts, mechanical design, hydraulic systems, logic and schematics, safety analysis and constructibility. Design, construction and operation of an explosive mining machine including mechanical and bit design, electrical system and safety interlocks, mixing systems, pattern design and detonation systems. Research topics have included materials and their fire behavior and ignition properties, electrical arcing analysis, high temperature accelerants, development of explosives and energetic materials.

Bethlehem Steel Co. – Seattle, WA (1978 – 1985)

Plant and Mechanical Engineer – Construction management including contractor supervision on structural, civil, mechanical and roofing projects. Developed plans, recommendations, cost estimates, budget controls, contracts and procedures for facility modernization or expansions. Design of material handling equipment such as conveyors, stackers and palletizers, fabricated steel housings, mechanisms and machines, crane modification and hot metal ladle revisions. Analysis and design of plant air, water, oxygen, natural gas and hydraulic systems. Rebuilding and protection of cooling towers, boilers and HVAC systems. Installation of fire protection and oil mist/fume evacuation systems.

CM Lange & Sons; MLF, Inc. – Everett, WA (1972 – 1978)

Shipwright wood and fiberglass power and sail boats including lofting, hull, deck, electrical, hydraulic, water, drive, exhaust, rigging and fuel systems.

EDUCATION, SPECIALIZED TRAINING & CONTINUING EDUCATION

B.S. Mechanical Engineering, University of Washington (1978)

Ongoing education including vehicle, electrical, commercial and wildland fire investigation, building codes and fire safety, National Electrical Code, oil furnaces, arctic engineering, Fire Alarms, Fire pumps, Sprinkler and automatic Fire Suppression and Protection systems, Explosion Protection, Fire Dynamics, Ignition Phenomena, FDS Modeling, failure analysis and blasting. Passed NICET ITM Level 2 Exam.

PROFESSIONAL CERTIFICATION & REGISTRATION

Registered Mechanical Engineer, State of Washington, #21094, 1983 – current

Registered Civil Engineer, State of Washington, #21094, 1987 – current

Registered Mechanical Engineer, State of Montana, #08653E, 1985 – current

Registered Civil Engineer, State of Alaska, #8562, 1993 – current

Licensed Blaster, State of Washington, 1986 to 2005

Certified Fire and Explosion Investigator and Instructor (CFEI & CFII), NAFI, 1991, 1998, 2003 to date

Certified Fire Investigator, IAAI, 1990, 1995, 2000, 2005 to date

Certified Fire Investigator, NPQS to NFPA 1033, 1995 to date

Certified Fire Protection Specialist, NFPA #2279, 2005

EPA Certified Universal Refrigerant Technician, ESCO Institute

PROFESSIONAL ASSOCIATIONS

Fellow – American Academy of Forensic Sciences (AAFS), 1987 to 2001

Member – American Fire Sprinkler Association (AFSA) 2003 to date

Member – American Society for Testing and Materials (ASTM) E05, 1998 to 2002

Member – American Society of Civil Engineers (ASCE), 1987-1999, 2005 to date

Member – American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE), 1983 to 1999, 2005 to date

Member – American Society of Mechanical Engineers (ASME), 1978 to date

Member – International Association of Arson Investigators, State and International (IAAI), 1986 to date

Member – National Association of Fire Investigators (NAFI), 1989 to date

Member – National Fire Protection Association (NFPA), Electrical & AEBO Sections, 1987 to date

Member – National Society of Professional Engineers (NSPE), 1995 to date

Member – Society of Explosive Engineers, (SEE), 1986-1994

Member – Society of Fire Protection Engineers (SFPE), 1992 to date

Member – Society of Plastics Engineers (SPE), 1995 to 2000

Member – Washington State Association of Fire Marshals, 2005 to date

Professional Corporate Member – International Conference of Building Officials (ICBO), 1995 to date

KCFD#2 Firefighter Academy 89-1, Volunteer Fire Fighter 1989-1994

Eagle Scout, BSA, 1972

PUBLICATIONS & PRESENTATIONS

Papers, reports and presentations relating to fire investigation, dryer, chimney, coffeemaker, welding, electrical, high temperature and marine fires, evidence handling and Microbiologically Induced Corrosion (MIC) to audiences such as fire investigators, forensic scientists, adjusters, and attorneys. Provided statements and interviews for newspapers and television relating to coffee maker fires, high temperature accelerants, and fire safety.

