



Advanced Engineering Investigations



DENNIS E. SHELP, MS, PE, CFI, CFEI, CVFI

Mr. Shelp is a mechanical engineer, a certified fire and explosion investigator, and has performed forensic investigations since 1997. He specializes in the investigation of fires, explosions, and mechanical equipment related incidents. He has presented at local and national conferences and seminars and has provided expert testimony in numerous state courts.

LICENSURE, EDUCATION & CERTIFICATIONS

Licensed Professional Engineer (PE) in Colorado, Alabama, Nevada, and Oklahoma

BS, Mechanical Engineering, Michigan State University, 1991

MS, Mechanics, Michigan State University, 1994

Certified Fire Investigator (CFI), International Association of Arson Investigators (IAAI), since 2009

Certified Fire and Explosion Investigator (CFEI), National Association of Fire Investigators (NAFI), since 2001

Certified Vehicle Fire Investigator (CVFI), National Association of Fire Investigators (NAFI), since 2019

Certified in Hazardous Waste Operations and Emergency Response (HAZWOPER) OSHA, yearly since 2003

Certified in DOT Haz-Mat Transportation, 49 CFR 172, 704 (1-4), since 2004

National Academy of Forensic Engineers – Board Certified in Forensic Engineering, Senior Member, 2018

Certified Vehicle Fire Investigator (CVFI), National Association of Fire Investigators (NAFI), 2019

WORK HISTORY

Principal Engineer, *AEI Corporation*, 2006 to Present

Project Engineer, *AEI Corporation*, 2005 to 2006

Project Engineer, *Western Engineering & Research Corporation*, 2002 to 2005

Senior Engineer/Analyst, *Engineering and Fire Investigations (EFI)*, Denver, CO, 2000 to 2002

Senior Engineer/Analyst, *Engineering and Fire Investigations (EFI)*, Houston, TX, 1998 to 2000

Associate/Principal Forensic Analyst, *Billy Cox & Associates*, Houston, TX, 1997 to 1998

Validation Engineer, *General Motors (contracted through Sycron Corp.)*, Flint, MI, 1995 to 1997

Research Assistant, *Michigan State University, Department of Biomechanics*, East Lansing, MI, 1991 to 1994

Production Supervisor, *General Motors*, Flint, MI, summer 1990

Engineering Intern, *Eaton Corporation, Engine Components Division*, Marshall, MI, 1989

Engineering Intern, *IBM, Environmental Evaluation Division*, Charlotte, NC, 1988

EXPERIENCE

As an engineer and certified fire and explosion investigator, Mr. Shelp has investigated fires and/or explosions involving residential and commercial buildings, oil and gas facilities, farm and heavy equipment, and recreational and motor vehicles. To determine the cause of these types of incidents, he has examined and tested various components, equipment, and systems including but not limited to, appliances, bearings, boilers, pumps, motors, compressors, hoses, heaters, fireplaces, regulators, meters, and gas plumbing systems. He has also collected debris samples for accelerant testing, and natural gas and propane samples for odorant analysis.

In addition to fire and explosion forensics, Mr. Shelp has investigated various equipment related incidents. These investigations typically involve substantial property damage often accompanied by business interruption, and/or personal injuries or deaths. Examples of these types of cases include, but are not limited to, boiler steam explosions, HVAC and refrigeration failures, carbon monoxide exposures, plumbing leaks, forklift tip-overs, boom collapses, machinery guarding issues, and caught-in and struck-by incidents.

AFFILIATIONS

National Propane Gas Association (NPGA)

National Fire Protection Association (NFPA)

National Association of Fire Investigators (NAFI)

American Society of Mechanical Engineers (ASME)

International Association of Arson Investigators (IAAI), Colorado and International Sections

National Society of Professional Engineers (NSPE)

National Academy of Forensic Engineers (NAFE)