



Roger W. Griffith, P.E.

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Curriculum Vitae

EXPERTISE

Over 35 years of mechanical engineering experience in the design, maintenance, and operation of mechanical, plumbing, and sprinkler systems. Served as a forensic consultant /expert witness since 2002 for matters related to building mechanical, plumbing, and sprinkler systems, such as **plumbing design, hot water scalding, legionella outbreaks, piping, HVAC design, carbon monoxide poisoning, gas appliances, gas venting, and failures and deficiencies related to mechanical and plumbing equipment and systems.**

PROFESSIONAL REGISTRATIONS AND CERTIFICATIONS

Registered/Licensed Professional Engineer in 24 states: Alabama, Arizona, Arkansas, Colorado, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maryland, Minnesota, Mississippi, Missouri, New York, North Carolina, Ohio, Oklahoma, South Carolina, Tennessee, Texas, Utah, and Virginia.

Board Certified in Forensic Engineering by the National Academy of Forensic Engineers (NAFE). The program is accredited by the Council of Engineering and Scientific Specialty Boards.

Certified Legionella Water Safety and Management Specialist, ASSE 12080 Certification Number: 46687

PROFESSIONAL AFFILIATIONS

American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE); 1996 – present

American Society of Mechanical Engineers (ASME); 1991 - present

American Society of Plumbing Engineers (ASPE); 1998 - present

- past Vice-President of Technical, East Tennessee chapter; (2004)

Updated - 04/01/2022

*This curriculum vita shall not be used for expert designation unless an authorized agreement is executed.



- past Vice-President of Education, East Tennessee chapter; (2005)
- past Vice-President of Legislation, East Tennessee chapter; (2003)
- past President of East Tennessee chapter; (2016-2020)

American Society of Sanitary Engineers (ASSE); 2015 - present

American Society of Testing & Materials (ASTM); 2016 - present

International Code Council (ICC); 2014 – present

National Academy of Forensic Engineers (NAFE); 2016 - present

National Fire Protection Association (NFPA); 2004 - present

National Society of Professional Engineers (NSPE); 2012 - present

CODES AND STANDARDS EXPERIENCE

ASPE Technical Standard 15 – Hot Water Temperature and Control, member; (2009 – 2010). This design standard committee provided industry guidelines for hot water temperature limits and control for plumbing systems to prevent scalding.

ASSE Scald Awareness Task Group, member. The task group was formed to make the public and plumbing community more aware of potential scald issues relative to plumbing systems. The task group has published the following white papers during my membership:

- Adjustment of Automatic Compensating Valves to Prevent Potential Scald Hazards
- Guidelines for Temperature Control Devices in Domestic Hot Water Systems
- Recommended Installation Practices for Residential Storage Type Water Heaters To Reduce the Danger of Scalds
- Recommended Installation Practices for Residential Tankless Water Heaters to Reduce the Danger of Scalding

ASSE 1082 Working Group, member; (2016-2020). The Working Group developed a standard for Tankless Water Heaters Used as Temperature Control Devices for Hot Water Distribution Systems.

ASSE 1084 Working Group, member; (2017-2020). The Working Group developed a standard for Tankless Water Heaters Used as Temperature Control Devices for Point-of-Use Applications.

ASSE 1085 Working Group, member; (2017-2020). The Working Group developed a standard for Tankless Water Heaters Used as Temperature Control Devices for Emergency Fixtures.

IAPMO Technical Committee for Construction Practices for Potable Water Guideline Task Group (2022-present) This standard will guide contractors and subcontractors in installing and



managing premise plumbing systems to minimize the risk of Legionella and other water-borne pathogens.

IAPMO UMC Legionella Task Group (2020-2021) This task group developed an Appendix H for the Uniform Mechanical Code that guides the selection of water temperatures to minimize Legionella growth potential associated with building mechanical systems.

IAPMO UPC Legionella Task Group (2018-2019) This task group developed Appendix N for the Uniform Plumbing Code that guides the selection of water temperatures to minimize scalding and the potential for Legionella growth.

ICC, Plumbing Mechanical Gas Code Action Committee (PMGCAC) member; (2017-2019). The PMGCAC reviews and proposes revisions to the International Plumbing, Mechanical, Fuel Gas, Private Sewage Disposal, Swimming Pool and Spa Codes, and the International Residential Code, chapters 12 through 33.

NFPA 54: National Fuel Gas Code, Technical Committee, member; (2016 - present). The committee has primary responsibility for code changes and updates covering the installation and operation of fuel gas piping systems, gas appliances, equipment, and related accessories, along with rules for piping system materials and components, piping system testing and purging, combustion and ventilation air supply, and venting of gas-fired appliances and equipment.

PROFESSIONAL EXPERIENCE

1997 - **Griffith Engineering & Consulting, Inc.**

present *Owner & Principal Engineer*

- Designer of mechanical, plumbing, and fire protection systems for residential, commercial, and industrial projects. Engineer-of-Record on over four million square feet of commercial, industrial, and residential construction projects
- Provides forensic investigations, litigation support, and expert witness services related to the design, installation, maintenance, and operation of mechanical, plumbing, and sprinkler systems, including pipe failures, hot water scalding, carbon monoxide poisoning, and legionella outbreaks. Testified as an expert witness at numerous depositions, trials and arbitration hearings.

2014-2016 **Mesa Associates and Retiree Resource Corporation**

Mechanical Engineering Consultant

- Process piping engineer for the Tennessee Valley Authority's new bottom ash dewatering facilities.

1983-1997 **Tennessee Valley Authority**

Quality Manager (1994-1997)

- Trained personnel at all levels of the corporation in problem-solving, root cause analysis, statistical process control, failure modes and effects analysis, and business process re-engineering.

Maintenance Supervisor, John Sevier Fossil Plant (1992-1994)



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- Responsible for mechanical maintenance of plant equipment including boilers, piping, heat exchangers, pumps, and conveying systems.
- Utilized root cause analysis for accident investigations and hazard analysis.

Mechanical Engineer, Boiler, Heat Exchanger, and Valve Group (1990-1992)

- Performed boiler inspections to determine root causes of failures.
- Inspected fans, pumps, ductwork, and other plant equipment and designed modifications and upgrades as required.

Maintenance Engineer, John Sevier Fossil Plant (1988-1990)

- Performed predictive maintenance and failure analysis of plant equipment.
- Designed and coordinated equipment modifications and upgrades.

Valve and Heat Exchanger Specialist (1985-1988)

- Designed upgrades and modifications of power plant condensers, valves, and various heat exchangers to improve performance and reliability.
- Performed failure analysis on plant equipment including heat exchangers, condensers, valves, and piping.
- Performed boiler inspections to determine root causes of failures.

Piping Analyst (1983-1985)

- Performed piping stress analysis for the Watts Bar Nuclear Plant.

COURSE INSTRUCTION

- Quality Improvement Tools & Techniques; Instructor, TVA University course, 1993 - 1997
- Fault-Tree Analysis; Instructor, TVA University course, 1996 - 1997

UNIVERSITY EDUCATION

Bachelor of Science, Mechanical Engineering, Tennessee Technological University, Magna Cum Laude, Cookeville, Tennessee - 1983.

HONORS AND SERVICE

- Pi Tau Sigma, Mechanical Engineering Honor Society, past member
- Tau Beta Pi, Engineering Honor Society, past member
- HVAC Consultant, University of Tennessee – Arch. 461: Studio Design; (2017 – 2019)