



## Roger W. Griffith, P.E.

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## Curriculum Vitae

### EXPERTISE

Mr. Griffith has over 40 years of experience designing, maintaining, and operating mechanical, plumbing, and sprinkler systems. He has served as a forensic consultant /expert witness since 2002 for cases involving *system design and equipment failures* in building mechanical and plumbing systems. His expertise includes *hot water scalding, Legionnaires' Disease, and carbon monoxide poisoning*.

### PROFESSIONAL REGISTRATIONS AND CERTIFICATIONS

Registered/Licensed Professional Engineer in 30 states: Alabama, Arizona, Arkansas, Colorado, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New York, North Carolina, Ohio, Oklahoma, South Carolina, Tennessee, Texas, Utah, Virginia, West Virginia, and Wisconsin.

Board Certified in Forensic Engineering (NAFE), 2016.

Certified as a Legionella Water Safety and Management Specialist, ASSE 12080. October 21, 2020.

### 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)
- 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

*Updated - 11/25/2024*

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



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 purpose of this task group is 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, member (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 Appendix H for the Uniform Mechanical Code, which guides the selection of water temperatures to minimize the growth potential of Legionella 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**

- 2002 - present      **Roger W. Griffith, P.E.**  
*Consulting Engineer*
- Forensic engineering investigations, litigation support, and expert witness services related to the design, installation, maintenance, or operation of building mechanical and plumbing systems, including hot water scalding, carbon monoxide poisoning, and Legionnaires' Disease. Testified as an expert witness at numerous depositions, trials, and arbitration hearings.
  - Designed mechanical, plumbing, and fire protection systems for residential, commercial, and industrial projects.
- 1997 - present      **Griffith Engineering & Consulting, Inc.**  
*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 building mechanical and plumbing systems, including 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)*

- Supervised the mechanical maintenance of plant equipment, including boilers, piping, heat exchangers, pumps, and conveying systems.
- Used root cause analysis and other analysis tools to determine actions needed to correct equipment failures.

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

- Conducted investigations and analysis of heat exchanger failures and developed corrective actions.
- 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)*

- Resolved engineering problems related to power plant mechanical equipment operation, performance, reliability, design, and maintenance.
- Performed engineering failure analysis to reduce or eliminate equipment failures caused by design deficiencies, wear, breakage, corrosion, etc.
- 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 valves and heat exchangers to improve equipment performance and reliability.
- Performed engineering failure analysis on plant equipment, such as heat exchangers, valves, piping, and fittings, to determine the best method of reducing or eliminating equipment failures.
- Performed boiler inspections to determine root causes of failures.

*Piping Analyst (1983-1985)*

- Performed stress analyses for nuclear plant piping systems in accordance with applicable ASME codes, ANSI standards, and NRC regulations. Stress analyses included consideration of thermal, stress, fatigue, vibration, and seismic stresses.

## **COURSE INSTRUCTION**

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

## **UNIVERSITY EDUCATION**



**Roger W. Griffith, PE**

**Bachelor of Science in Mechanical Engineering.** *Magna Cum Laude*. Tennessee Technological University, Cookeville, Tennessee, June 4, 1983.

### **HONORS AND SERVICE**

- HVAC Consultant, University of Tennessee – Arch. 461: Studio Design; (2017 – 2019)
- Washington Internship for Students of Engineering.
- Pi Tau Sigma, Honorary Mechanical Engineering Fraternity.
- Tau Beta Pi, Engineering Honor Society.
- Kappa Mu Epsilon, Mathematics Honor Society.
- Phi Kappa Phi, Collegiate Honor Society.