

George Montgomery, PE

720 Hunting Ridge Road, Raleigh, North Carolina 27615

919.324.2085

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Profile

Mechanical Engineer with 35+ years of experience performing analysis of equipment components for fitness for service, design and construction, project management, program management, financial risk, course development and teaching.

Professional Experience

Professional Engineering Consultant, 2009-Present (10 years)

Managed and performed independent Professional Engineering projects as an independent consultant. Principal projects include computerized finite element analysis and fracture mechanics evaluation of power generation plant equipment and piping. Developed and taught courses on stress analysis, ANSYS and fracture analysis. Students were transported from Korea by an Asian company for focused education in engineering and culture.

Senior Engineer, Progress Energy, Raleigh, North Carolina, 1983-2009 (26 years)

Managed and performed mechanical engineering projects throughout Progress Energy for power plants in NC, SC and FL. Monitored turbines, generators, pumps, heat exchanger, pressure vessels for condition assessment. Wrote reports and recommendations to extend life of equipment using risk analysis techniques. Evaluated potential defects in pressure vessels, piping, turbines, generators, etc. using FEA and fracture mechanics in-house computer programs. Managed the high energy piping program to inspect welds on high pressure steam and water systems.

Project Engineer, JE Serrine & Company, Raleigh, North Carolina, 1976-1983 (7 years)

Oversaw and performed mechanical engineering projects, including the incorporation of state-of-art technologies to improve efficiency and accuracy. Prepared flow charts for power plants, paper mills, etc. to indicate flow of materials during operation of the facility. Routed piping for water, steam, condensate, black liquor, etc., often as a preliminary measure to estimate cost. Calculated stresses in steam and water piping systems using ASME/ANSI codes and designed piping structural support systems.

Field Engineer, General Electric Company, Charlotte, North Carolina, 1972-1975 (3 years)

Provided technical direction for turbine-generator construction and overhaul during maintenance shutdowns. Maintenance on turbine disks and blades, stop valves, non-return valves, piping, controls, etc.

Education & Training

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Master of Engineering, North Carolina State University, Raleigh, NC
Mechanical Engineering

Bachelor of Science, University of Texas, Austin, Texas
Mechanical Engineering

Certifications & Affiliations

- Registered Professional Engineer (PE), North Carolina 036314 (12/31/19)
- Member, American Society of Mechanical Engineers (ASME): Member Inspection Planning Sub-committee and Post Construction Committee

Computer Programs Used

AutoPipe, FE/Pipe, ANSYS, STAAD, MS Excel, MS Word, MS PowerPoint, MS Project, AutoCad, Caepipe

Military

- 1970–1972, United States Army
- In charge of fire direction control for eight-inch artillery battery

Leisurely Interests

Martial arts