

Thomas Poerio, Ph.D., P.E., LEED AP

Construction and Mechanical Systems Engineer

Univesco, LLC

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PROFESSIONAL EXPERIENCE

Univesco, LLC

Principal, 2008 to present

Provide technical investigations, analysis, reports, and testimony for commercial and personal injury litigation involving building systems and construction claims including design, construction, construction delays, safety, HVAC, plumbing and fire protection systems. Areas of expertise include:

Construction Claims, Construction Delays and Building Safety Issues:

- Building code compliance
- Construction cost analysis
- Construction change order analysis
- Green building and LEED certification claims
- CPM schedule analysis
- Delay and disruption analysis
- Contract document analysis including drawings, technical specifications, codes, standards, contracts, subcontracts, and construction management agreements

HVAC Systems:

- Heating - hydronic and steam heating systems, gas-fired appliances, boilers, furnaces, flues, chimneys, safety relief valves, heaters, heat exchangers, heat recovery units, heat pumps, radiant heating systems, and heat trace
- Cooling - chillers, cooling towers, direct expansion, variable refrigerant flow, condensers and condensing units
- Controls - temperature control, humidity control, DDC, Bacnet, Lonworks, energy management, and building management systems
- Distribution - air handlers, ductwork, variable air volume (VAV) systems, pumps, piping, primary/secondary systems, circulators, valves, and exhaust
- Commissioning - sequence of operation, functional checklists, owner's project requirements, testing, adjusting, and balancing
- Ventilation - indoor air quality, indoor environmental quality, sick building syndrome, and outdoor air requirements
- Energy - energy models, energy analysis, and energy performance contracts

Plumbing, Water, and Sewage Systems:

- Domestic hot and cold water - temperature control, water heaters, mixing valves, circulators, water hammer
- Gas systems - natural gas, gas piping, regulators, gas valves, appliances
- Sewage systems - gravity, pumped, storm, sanitary, combined

Fire Science and Fire Protection Systems:

- Thermodynamics, heat transfer, fluid mechanics, combustion, fire safety, smoke movement, and smoke evacuation
- Wet and dry sprinkler systems
- Fire alarm systems, heat detectors, smoke detectors, carbon monoxide detectors

Industrial Systems:

- Process - steam, specialty gases, pumps, controls, explosion-proof equipment
- Air quality and ventilation - exhaust hoods, fume hoods, paint spray booths, fans, ductwork

Dodson Engineering, Inc.

Project Manager, 2006 to present

Analyzed and designed HVAC systems, plumbing and fire protection systems for commercial and institutional facilities including chilled water cooling, direct expansion cooling, variable refrigerant flow systems, hot water heating, gas burning equipment, geothermal systems, ventilation systems, exhaust systems, automatic temperature control systems, and smoke evacuation systems. Performed commissioning services and analyzed LEED requirements.

Poerio, Incorporated

Vice President, 1997 to 2005

Estimated and managed commercial, institutional, and industrial general construction projects. Duties included scheduling projects using Primavera, negotiating price, scope, terms and conditions of subcontracts and purchase orders, site visits, cost estimating and project management. Submitted and negotiated a \$1,000,000.00 delay claim against the United States Department of Veterans Affairs. Managed projects as large as \$13,000,000.00 and bid projects in excess of \$25,000,000.00.

Elwood Tower, Corporation

HVAC Staff Engineer, 1995 to 1997

Analyzed and designed HVAC systems for commercial and institutional facilities including chilled water cooling, direct expansion cooling, hot water heating, gas burning equipment, geothermal systems, ventilation systems, exhaust systems, automatic temperature control systems, and smoke evacuation systems.

Johnson, Schmidt, and Associates

HVAC Engineer, 1994 to 1995

Analyzed and designed HVAC systems for commercial and institutional facilities including chilled water cooling, direct expansion cooling, hot water heating, gas burning equipment, ventilation systems, exhaust systems, automatic temperature control systems, and smoke evacuation systems.

The Trane Company

Sales Engineer, 1989 to 1991

Sold HVAC equipment to mechanical contractors and building owners and assisted mechanical engineers with HVAC system design and specification of HVAC equipment.

TEACHING EXPERIENCE**University of Pittsburgh**

Lecturer, Math 0230 Analytic Geometry and Calculus II (2 terms)

Lecturer, Math 0410 Discrete Mathematical Structures

Lecturer, Math 0020 College Algebra

Teaching Assistant, Math 0240 Analytic Geometry and Calculus III

Teaching Assistant, Physics 0004 Basic Physics for Science and Engineering I

Teaching Assistant, Physics 0010 Introduction to Laboratory Physics

PROFESSIONAL CREDENTIALS

Professional Engineering License in Pennsylvania (License #PE-053072-E)

LEED Accredited Professional, U.S. Green Building Council (USGBC)

EDUCATION

Ph.D. Mathematics, University of Pittsburgh, August 2008

Thesis: Topological Algebraic Structure in the Density Topology and on Souslin Lines

M.A. Mathematics - University of Pittsburgh, 1999

M.S. Physics - University of Pittsburgh, 1994

B.S. Mechanical Engineering – The Pennsylvania State University, 1986

PROFESSIONAL MEMBERSHIPS

National Society of Professional Engineers

American Society of Heating, Refrigeration, and Air Conditioning Engineers

American Mathematical Society

American Physical Society