

**PROFESSIONAL EXPERIENCE**

**JUN 1988 - PRESENT**

**APPLIED THERMAL ENGINEERING, INC.**

Founder and president of this specialty engineering firm whose forté is identifying and solving complex, intractable problems; industrial power plant engineering, utility generation, and distribution; cogeneration; energy conservation and recovery; industrial process improvement; project design and management; forensic engineering and expert witness in the above specialties. Over 25 years of experience in mechanical engineering with an emphasis on thermal systems engineering.

Clients include:

- < Anheuser - Busch
- < Cargill, Inc.
- < General Motors
- < Honda America Mfg.
- < Mead Paper
- < Owens - Corning Fiberglass
- < PPG Industries
- < Ross Laboratories
- < Boiler Technology course instructor for National Technology Transfer
- < University of Wisconsin - Engineering Extension, Industrial Boiler Controls Course Presenter
- < Ford Motor Company
- < State of Ohio
- < Thomson Consumer Electronics (RCA)
- < University of Chicago
- < Wilbur Smith Associates
- < Numerous smaller companies
- < Numerous law firms nationwide
- < Dozens of Teltech phone support clients

**OCT 1983 - JUN 1988**

**THE OHIO STATE UNIVERSITY**

Senior Mechanical Engineer:

- C Successfully managed a \$7,000,000 steam line expansion project which encompassed 30,000 feet of superheated steam and condensate lines, several major road crossings, a river bridge crossing, and 15 building tie-ins / system upgrades, all on a crowded urban campus. Project management entailed:
  - @ Oversight of consulting engineers.
  - @ Review and approval of all plans, specifications, and change orders.
  - @ Coordination and liaison with all affected University departments.
  - @ Installation coordination and oversight.
  - @ Resolving conflicts between this and other ongoing projects.
  - @ Minimization of disruption to all University operations.
- C Spearheaded a \$2,300,000 cogeneration project in McCracken Power Plant. Authored the feasibility study which withstood a peer review by outside consultants; overcame significant technical and political hurdles; supervised design, specification, procurement, and installation of the 3125 KW non-condensing turbine generator, and all associated piping and auxiliary equipment.
- C Assisted in the completion and start up of a 125,000 pound per hour coal fired boiler and its associated flue gas scrubber system.
- C Assisted in the preliminary needs assessment and scope of work development for a medical waste incinerator.
- C Earned the Mechanical Engineering Advanced Professional Degree.
- C Taught ME 625, a dual level course in Power Plant Engineering.

**NOV 1981 - JUN 1983****CUMMINS ENGINE COMPANY**

Facilities project manager for maintenance and engineering at five large buildings. Provided engineering services for an additional twenty-five buildings, totaling over 1,000,000 square feet.

Major accomplishments:

- C Converted three boilers to dual fuel capability to minimize fuel costs.
- C Analyzed major electric accounts. Through a transformer purchase, brought a major facility into a lower rate structure, saving thousands of dollars annually.

**JUN 1979 - OCT 1981****ALUMINUM CO. OF AMERICA**

Mechanical engineer in charge of energy conservation for a large aluminum extrusion plant. Provided engineering services for the boiler house and billet annealing furnaces.

Major Accomplishments:

- C Initiated closing the doors of the homogenizing furnaces between loads to conserve energy and reduce furnace turn around time.
- C Discovered and engineered a heat recovery project for an aluminum chip dryer.
- C Designed and built a new boiler ash handling facility. Performed significant equipment enhancements to make the system operational.
- C Analyzed the condensate return system in search of a solution to a vexing problem only to find that the difficulty was caused by a faulty control valve diaphragm.
- C Managed and inspected the contracted repair of the 200' boiler house chimney.

**JUL 1977 - MAY 1979****PURDUE UNIVERSITY**

Project engineering including design and installation of retrofit HVAC systems on campus.

**JUL 1976 - JUL 1977****ARMOUR - DIAL, INC.**

Project engineer, then maintenance supervisor at a large soap manufacturing plant.

**LICENSES**

PROFESSIONAL ENGINEER: Ohio  
 PILOT, Single Engine Land: FAA  
 STATIONARY ENGINEER, 3rd CLASS: Ohio

**MILITARY SERVICE**

OCT 1968 - AUG 1972

UNITED STATES MARINE CORPS

Parris Island - 1968. Completed Officer's Candidate School at Quantico in 1969. Volunteered for and actively participated in Viet Nam.

**EDUCATION**

OHIO STATE UNIVERSITY: Mech. Engineering Professional Degree, 1988.  
 PURDUE UNIVERSITY: BSME, 1976. Member - Pi Tau Sigma.

**PROFESSIONAL AFFILIATIONS**

MEMBER - American Society of Mechanical Engineers  
 AFFILIATE MEMBER - American Public Power Association

**PUBLIC SERVICE WORK**

MEMBER - Columbus District Heating Task Force, 1984 - 1986  
 Commander - American Legion Post #115, Delaware, OH