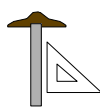


# FORENSIC ENGINEERING SCIENCES, INC.

*A Professional Corporation of Engineering Consultants since 1990*

2586 Nazareth Road  
P. O. Box 3938  
Easton, PA 18043-3938



Telephone: (610) 253-6336  
Toll Free: (866) 554-6343  
Facsimile: (610) 253-6177

## Resume:

**CHARLES J. LONGACRE**

**Education:** Bachelor of Science in Mechanical Engineering (1974)  
Wichita State University; Wichita, Kansas

### Specialized Training:

- Advanced Project Management - College of Bus. Admin. / Texas Tech Univ.
- Professional Safety Review Course - Langlois, Weigand & Associates
- Tire Forensics, Attorney / Expert Interaction, NASA Research Technology - NATARI
- Failure Analysis / Principles and Methods - Society of Automotive Engineers
- Current Issues in Occupational Safety and Health Law - OSHA / Lehigh Valley ASSE
- Certified Motor Vehicle Inspection Mechanic - Commonwealth of Pennsylvania
- Electrical Safety in the Workplace (NFPA 70E) - Nat'l Fire Protection Assoc.
- OSHA Update 2005, 2006, 2009, 2010 - OSHA / Lehigh Valley Chapter ASSE
- Worker Compensation Workshop - Lehigh Valley Safety Committee
- Safety Committee Certification - PA Dept. of Labor & Industry / LVSC
- Fall Protection / General Industry - OSHA / Lehigh Valley Safety Committee
- Failure Modes and Effects Analysis / Weibull Analysis - SAE International
- Component Design - Integration of FEA and Fatigue Analysis - SAE International
- The Bolted Joint: Analysis, Assembly, and Trouble Shooting - SAE International
- Welded Joints - Lehigh Valley Chapter SAE / SAE International
- Product Design with Aluminum Cast Alloys / LVSAE / SAE International
- Metal Corrosion & Prevention / LVSAE / SAE International
- Advanced Fire, Arson, & Explosion Investigation Training Program (NFPA 921) - NAFI
- National Seminar on Fire Analysis Litigation - NAFI
- Machine Safeguarding Skill Builder Seminar - OMRON-Sti

**Patents:** U.S. Patent No. 7,185,924 U.S. Patent No. 7,266,875

## Professional:

Professional Engineer

Commonwealth of Pennsylvania License No. PE-056984-E

State of New Jersey License No. GE 47200

Member - American Society of Mechanical Engineers

Member - Society of Automotive Engineers (SAE International)

Member - National Association of Fire Investigators (NAFI)

Certified Fire and Explosion Investigator (NAFI - #14519-7806)

Life Member - Tau Beta Pi Engineering Honorary Fraternity

Member - Pi Tau Sigma Mechanical Engineering Honorary Fraternity

Member - Aircraft Owners and Pilots Assoc. - Licensed Private Pilot

Member - National Ski Patrol System

Certified First Responder - PADOH, Bureau of Emergency Medical Services

## Employer:

**Forensic Engineering Sciences, Inc. - Easton, PA.**

Technical Specialist / Engineering Consultant (2000 - Present)

Providing engineering consulting services to clients in product design and evaluation, equipment fires, equipment failure analysis, safety in recreational and industrial activities, accident reconstruction, and machine design, including issues of guarding, warnings, and safety.

**Professional Experience: CHARLES J. LONGACRE**

**Westinghouse Electric Corporation - Lester, PA.**

Associate Engineer - (1974 - 1976)

Design, specification, and manufacturing engineering of large steam turbines and related equipment for electric power generation in nuclear power plants.

**Ingersoll Rand Corp., Turbo Products Division - Phillipsburg, NJ.**

Design/Associate/Senior Design Engineer (1976 - 1987)

Design engineering of high-speed, high-temperature rotating machinery. Directed and performed failure analysis of components which did not meet durability objectives. Designed and constructed test rigs to perform accelerated life analysis of equipment. Directed material development programs and coordinated metallurgical work. Supervised assembly and test of gas turbine equipment. Developed methods for computer analysis of components and systems.

**Pennwalt Corp., Sharples Centrifuge Division - Warminster, PA.**

Senior Project Engineer (1987 - 1988)

Design and project engineering of centrifuge products and projects for pharmaceutical, process, and wastewater applications. Designed a new vertical centrifuge for the biotechnology market. Supervised design modifications and manufacture of large horizontal decanter centrifuges for wastewater applications. Analyzed and tested existing designs to expand operating parameters. Supervised and performed failure analysis of existing designs and components.

**CONMEC, Inc. - Bethlehem, PA.**

Senior Design Engineer / Project Manager (1988 - 1991)

Design engineering and project management of rotating machinery aftermarket services for the oil, natural gas, and petrochemical industries. Performed and supervised design, analysis, manufacture, installation, and testing of aftermarket products and services. Performed and supervised failure analysis of existing designs and components, then designed alternative products and components which would meet durability objectives.

**Humboldt Decanter, Inc. - Cedars, PA.**

Manager of Engineering (1991 - 2000)

Complete responsibility for engineering, manufacturing, assembly, test, installation, and service of centrifuges for industrial and municipal wastewater applications. Converted existing European centrifuge designs for manufacture and application in the North American market. Established a Virtual Manufacturing system to produce more than 140 new centrifuges. Adapted guarding systems and warnings of existing designs for application in North America. Performed and supervised failure analysis of components which did not meet durability requirements. Initiated and executed a cooperative program with the Ben Franklin Partnership and Lehigh University Computer Integrated Manufacturing Laboratory to design an optimized manufacturing facility for the company's products. Supervised and provided technical support for field servicemen, sales, and customer personnel.