

WILLIAM R. ACORN, PE, DFE, FASHRAE, CFLC

OVERVIEW OF PROFESSIONAL EXPERIENCE



William R. Acorn is principal and founder of Acorn Consulting Services, LLC. A consulting mechanical engineer specializing in the built environment, Bill provides:

- Project Design and Management Consulting
- Forensic Analysis and Litigation Consulting
- Expert Testimony at Legal Proceedings
- Mentoring & Advanced Education

With more than 40 years of experience as a professional engineer, Bill is an internationally recognized authority on assessing, evaluating, conceptualizing and remediating complex project design, construction and operational issues related to the built environment. He has analyzed and designed hundreds of projects including commercial office buildings, healthcare facilities, institutional laboratories, and clean manufacturing facilities for the semiconductor and related advanced technology industries.

Bill has significant experience as an *expert analyst* of building system design and construction, environmental system control failures, code compliance issues and cause/effect relationships of performance issues related to the built environment. As a *forensic engineer*, litigation consultant and expert witness, Bill has represented plaintiffs, defendants and their insurers in a variety of domestic and international venues with litigation values to greater than \$250MM US. Forensic assignments have included projects dealing with:

- Heating, Ventilating and Air-conditioning (HVAC) systems
- Cleanrooms and other critically controlled environments
- Semiconductor wafer fabrication facilities
- Data Center infrastructure facilities
- Pharmaceutical and healthcare
- Institutional laboratories
- Exposure to hazardous materials
- Industrial ventilation systems
- Power and Process piping systems
- Plumbing systems
- Energy management/control systems
- Commercial/industrial refrigeration systems
- Fires and explosions
- Exposure to carbon monoxide
- Exposure to Legionella
- Intellectual property disputes regarding patents or trade secrets
- Compliance with codes and standards
- Standard of care for design and construction professionals

Bill's experience as an engineer, project manager and design firm principal covers the spectrum including; programming, design, construction, start-up/commissioning, and operational facility evaluation and optimization. Bill and his predecessor firm were responsible for all aspects of design, development of construction documents, start-up and commissioning and construction phase support for new and retrofit projects. Although no longer providing detailed design and construction documents, Bill provides *project consulting* services; acting as an owner's agent or extension of the staff of the designer and/or builder of complex projects. Bill's services span the range from *peer review* of the design, to code compliance consulting, *value engineering*, sustainability, energy use evaluation and performance optimization recommendations.



Bill's pragmatic approach to both project consulting and *forensic/litigation consulting* is the result of real-world experience and many years as a trainer and mentor in professional and academic settings. His ability to explain complex issues in a manner that is understandable to students, entry level engineers, managers and non-technical audiences is key to his success in the litigation consulting environment.

Professional Mechanical Engineer (P.E.) - Mr. Acorn became licensed as a professional engineer in 1976 in Arizona. Since that time he has become licensed in California, Colorado, Illinois, Iowa, New Hampshire, New Mexico, Nevada, Oregon, Texas, Utah and Washington, and is also registered with the [NCEES](#) "National Council of Examiners for Engineering and Surveying" (Certificate No. 6999).

Forensic Engineering: Bill began his forensic engineering practice early in his consulting career, when the Corps of Engineers retained his firm to evaluate the failure of two Air Force commissary refrigeration systems after successfully designing a system for a new commissary. That introduction to forensic engineering sparked his interest in the retrospective analysis of failed mechanical systems and remedial solutions for such failures.

As a visiting lecturer at Arizona State University, he delivers public and private seminars and workshops through their continuing education programs on topics including mechanical system design, project management and code compliance for advanced technology facilities. Bill was the "*Eminent Scholar*" in Cleanroom Design at the ASU School of Construction in 1997, the only non-academic ever appointed by the DEWSC to this position. During the period from 2002 – 2011 Bill was responsible for development and presentation of the mechanical engineering and code compliance portions of the curriculum for the graduate level course CON 598 "*Design and Construction of Cleanrooms*".

Bill was involved from the inception of CREATE "Construction Research and Education for Advanced Technology Environments" at Arizona State University. This organization was charged with research and development related to the design and construction of advanced technology facilities. Bill continues to be involved with [ACE](#) "Alliance for Construction Excellence" at ASU.

As a visiting lecturer in the Department of Aerospace and Mechanical Engineering at the [University of Arizona](#), Bill lectures on the analysis and design of environmental control (HVAC) systems.

The author of **Code Compliance for Advanced Technology Facilities**, Bill is widely recognized as an authority on the subject and regularly delivers seminars and workshops to industry and academia on hazardous occupancy code compliance. Bill also regularly consults with the regulatory community, owner/operators and design professionals concerning issues of life safety in semiconductor and similar hazardous facilities. In addition, Bill was a contributing author to the **Semiconductor Safety Handbook** edited by Richard A. Bolmen, Jr.

Bill has been recognized for technical achievements, innovation and foresight by peers, associates and clients. He was elected in 2007 to the status of *Fellow* in the HVAC industry-leading professional organization the American Society of Heating, Refrigerating and Air-Conditioning Engineers [ASHRAE](#); a position that recognizes "unusual distinction and contributions to the art and science of the HVAC industry." This recognition is achieved by fewer than 1% of the members of ASHRAE world-wide.

Bill has attained the status of **Board Certified Diplomate in Forensic Engineering** (DFE) granted by the National Academy of Forensic Engineers (<http://www.nafe.org>), a Chartered Affinity Group of the National Society of Professional Engineers (<https://www.nspe.org/>). Bill is also a **Certified Forensic Litigation Consultant** (CFLC) through the Forensic Expert Witness Association (<https://forensic.org>).

