David Beachy | Principal Forensic Engineer, **MS, PE, CFEI**

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Professional Summary:

Mr. Beachy is a licensed professional engineer in multiple states throughout the Mid-Atlantic region and has over 14 years of engineering experience. He began his carrier in the United States defense industry as a mechanical design engineer performing complex structural and mechanical analyses for the development and field implementation of customer desired products. Mr. Beachy was accountable for all aspects of the product development life cycle including conceptualization, design, analysis, fabrication, verification testing, and deployment. He managed and led over nine successful mission direct projects providing client operators solutions in the field.

Mr. Beachy capitalized and leveraged his past engineering and hands-on experience when entering the forensic engineering field. Mr. Beachy has over seven years conducting loss investigations and providing consulting services on topics of civil, mechanical, and fire protection engineering. Mr. Beachy's expertise include, but are not limited to:

- Mechanical failures
- HVAC systems
- Water losses and plumbing failures
- Vehicle forensics
- Fire protection systems
- Building envelope evaluation
- Analyzing and interpreting codes and standards

Licenses and Certifications:

Professional Engineer, Delaware, #21009

Professional Engineer, Maryland, #49747

Professional Engineer, New Jersey, #24GE05340600

Professional Engineer, New York, #106100

Professional Engineer, Pennsylvania, #PE087200

Professional Engineer, Virginia, #0402053588

Professional Engineer, Washington DC, #PE908722

Professional Engineer, West Virginia, #022999

National Engineering Registration, NCEES, 14-434-31

Certified Fire and Explosion Investigator, National Association of Fire Investigators, 22334-14283

Certified Fireplace & Chimney Inspector, F.I.R.E. Service, FCI-408

Certified in Hazardous Waste Operations & Emergency Response (HAZWOPPER)

Project Experience:

Howard University, District of Columbia
Forensic Mechanical – Boiler Failure
Investigated and analyzed boiler tube failures in two boilers, each rated at 112,000 lb/hr of steam, causing catastrophic boiler failure and a loss of heat to the entire University campus.

Earleville, Maryland
Fire Protection Systems – Sprinkler Freeze
Investigated, analyzed codes, and performed heat transfer calculations to determine the factors that led to and the party responsible for a wet pipe sprinkler system to freeze.

Multiple Locations in Mid-Atlantic
Forensic Mechanical – Plumbing Failures
Investigated multiple commercial and residential plumbing failures that included but was not limited to various PEX connection systems, soldering and brazing connections, and plastic to metallic fitting connections.

Exton, PA
Forensic Mechanical – Elevated Humidity Levels
Investigated, analyzed codes and performed HVAC calculations to determine the cause for a dwelling to experience high humidity levels after a new HVAC system installation.

Court Qualifications/Depositions:

Litigation CV available upon request.

Professional Experience:

EFI Global, Service Line Principal, Principal Forensic Engineer, 2020 - Present

EFI Global, Senior Forensic Engineer, 2020

EFI Global, Forensic Engineer, 2018 - 2020

Unified Investigations and Sciences, Forensic Engineer, 2016 - 2018

Commonwealth Technology Inc., Mechanical Design Engineer, 2014 – 2016

Raytheon UTD, Mechanical Design Engineer, 2009 – 2014

Olde Town Engineering Company, Structural Engineer Intern, 2007 & 2008

Specialized Education:

Tire Failure Analysis, 5 Day Class, Tennent and Associates, 2023

Introduction to Metallurgical Failure Analysis with Case Studies, PDHDirect, 2022

HVAC – Natural Ventilation practices and Principles, PDHDirect, 2022

Circuit Protection Devices, CED Engineering, 2022

Overview of Fire Alarm and Detection Systems, CED Engineering, 2022

Practical Fractography, ASM International, 2021

Tools to Ensure Effective Litigation Preparation and Testimony as an Engineering Professional, NSPE, 2021

Corrosion and Air Vents: NFPA 13 Code Requirements, Continuing Education Center, 2021

Multiple Zone Air Systems, ASM International, 2021

Bosch Vehicle Crash Data Retrieval Kit Training, Crash Academy, 2020

Commissioning Process, ASHRAE, 2020

Humidity Control: Avoiding Five Common Design Problems, ASHRAE, 2020

Fire Investigation Training Program, 4 Days, NAFI, 2020

Principles of Fire Investigation Multi-Program, 67 Credit Hours, CFItrainer.net, 2020

HAZWOPER Training, 40 Hour, 360training, 2019

NFPA 25 – Inspection, Testing, and Maintenance of Water Based Fire Protection Systems Hands On Training, 3 Days, NFPA, 2019

High Temperature Water Heating Systems, PDHdirect, 2019

EFP Indoor Air Quality Building Education & Assessment Guidance, PDHdirect, 2019

A Guide for Use and Adoption of The International Plumbing Code, PDHdirect, 2019

Direct Current Circuits Fundamentals, PDHdirect, 2019

Hands-On Electrical Fire and Arson Investigation, Public Agency Training Council, 2018

Introduction to Fire Suppression Systems Inspection, Testing, and Maintenance,

PDHonline, 2018 Ethical Issues in Forensic Engineering, PDHdirect, 2018

Introduction to Inspection of Boilers and Unfired Pressure Vessels, PDHonline, 2018

Hands-on Vehicle Fire/Arson Investigation, Public Agency Training Council, 2017

Unified Investigations & Sciences In-service Webinar Series, Essentials of NFPA 1033, 2017

Mold Remediation in the Workplace – OSHA Guide, PDHonline, 2017

Introduction to Fire Protection Systems, PDHonline, 2017

Basics of Piping System Thermal Expansion for Engineers, PDHonline, 2017

Plastic Fundamentals: Properties and Causes of Failures, PDHonline, 2016

Essentials of Composite Materials for Engineers & Technical Managers, 2013

Design, Analysis & Fabrication of Composite Structures, 2012

Master Certificate in Concrete Production, 2011

Underground Pipeline Corrosion Control, 2010

Education:

Master of Science, Mechanical Engineering, The Catholic University of America, Washington, DC, 2012

Bachelor of Science, Mechanical Engineering, University of Delaware, Newark, Delaware, 2009

Affiliations:

National Society of Professional Engineers, NSPE

American Society of Heating, Refrigeration, and Air Conditioning Engineers, ASHRAE

National Association of Fire Investigators, NAFI

National Fire Protection Association, NFPA