

Christopher L Tjon

Forensic Engineering Expertise

Mechanical Failure

Determine root cause of mechanical failure including industrial accidents, explosions, appliances, HVAC equipment, plumbing, fireplaces and auxiliary heating appliances, and fire suppression systems.

Origin & Cause

Determine the source and responsible party or element related to a failure resulting in water damage and/or bio-organic growth in a building. Examples of past work include failures causing moisture entry, humidity and condensation-related losses, and groundwater entry.

Building Pathology

The building pathologist relies on an in-depth knowledge of building design, construction, use, and changes, as well as assessing the environment of use and the materials and how these interrelate to systematically identify, investigate, and diagnose defects in a building.

Examination and Evaluation of Roofing Systems

Including various types of roofing materials installed on steep slope roofs. including both common and unique roofing applications. Past work involved offering opinions and repairs related to installation deficiencies and storm-related damages including hail and wind damages.

Collision Analysis

Investigation and analysis of impacts involving passenger vehicles, commercial vehicles, motorcycles, bicycles, off road vehicles, equipment, and pedestrians. Scene and vehicle mapping, speed determination, crash severity analysis, biodynamics, seatbelts and supplemental restraint systems analysis, and site distance analysis.

Qualifications & Training

- Water Damage Events: Scope, Risks, and Accountability in Remediation, HalfMoon Education Inc., March 2024
- Mold – Introduction, eurofins, March 2024
- Two-Day Investigation, Shand Forensic Investigations, February 2024
- Mold Matters: The Effect of Fungi on Building Materials, eurofins, May 2023
- Testing, Adjusting and Balancing, Engineering Professional Development Course by University of Wisconsin, March 2023
- Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems, National Fire Protection Association 25, January 2023
- Standard for the Installation of Sprinkler Systems, National Fire Protection Association 13, January 2023
- 2022 Buildings XV: Thermal Performance of the Exterior Envelopes of Whole Buildings, American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE)
- Water Entry Prevention and Moisture Control in Buildings, Engineering Professional Development Course by University of Wisconsin, April 2022
- IAQA 2022 Annual Meeting & Exposition, Indoor Quality Air Association (IAQA), February 2022
- Understanding Undetermined, CFITrainer.net, February 2022
- Fundamentals of Residential Building Construction, CFITrainer.net, February 2022

- Investigating Natural Gas Systems, CFITrainer.net, February 2022
- Residential Natural Gas Systems, CFITrainer.net, February 2022
- Lithium-Ion Battery Fires, IAAI, CFI Trainer.net, July 2021
- Level 1 Certified Infrared Thermographer, Certified by Infrared Training Center, June 2021
- Nederveld Introduction to Collision Analysis, September 2020
- National Society of Professional Engineers; continued professional development seminars, 2018 to present
- Fundamentals of HVAC, Engineering Professional Development Course by University of Wisconsin, March 2020

Education

Master of Science in Engineering
University of Arkansas
December 2021

Bachelor of Science in Mechanical Engineering
Clemson University
December 2008

Licenses & Certifications

PE - Professional Engineer

Licensed by the State of California – Number M 39109
 Licensed by the State of Colorado – Number PE.0060202
 Licensed by the State of Georgia – Number PE043445
 Licensed by the State of Illinois – Number 062.070484
 Licensed by the State of Indiana – Number PE12200151
 Licensed by the State of Michigan – Number 6201067767
 Licensed by the State of Minnesota – Number 60116
 Licensed by the State of Missouri – PE-2022007841
 Licensed by the State of New York – Number 100160
 Licensed by the State of North Carolina – Number 057526
 Licensed by the State of North Dakota – Number PE-29771
 Licensed by the State of Oregon – Number 105503PE
 Licensed by the State of South Carolina – Number 17273
 Licensed by the State of Tennessee – Number 117502
 Licensed by the State of Texas – Number 135685
 Licensed by the State of Utah – Number 13730740-2202
 Licensed by the State of Washington – Number 56523
 Licensed by the State of Wisconsin – Number 46917-6
 Licensed by the State of Nevada – Number 034148
 Licensed by the State of Rhode Island – Number 16049

Employment History

Forensic Engineer
Nederveld, Inc.
2019 – Present

Duties include forensic engineering analysis relating to mechanical system failure (industrial accidents, appliances, HVAC equipment), fire suppression systems, building pathology, water loss events (plumbing), and storm damage (wind, snow, hail).

Principal Engineer
LiquiTech Inc., Lombard, IL
2018 – 2019

Duties included evaluation of potable water systems for risks associated with waterborne pathogens, development of water safety (management) plans, provided troubleshooting and technical support to the healthcare and hospitality industry.

Engineering Consultant
AECOM - Nuclear and Environment
2011 – 2018

Duties included project management, facility design, equipment design, equipment evaluation, CAD, safety analysis, and procurement in support of various projects throughout Department of Energy Nuclear facilities.

Mechanical Design Engineer I / Plant Piping Design Engineer
AREVA Federal Services Mixed Oxide Fuel Project, Savannah River Site, Aiken, SC
2009 – 2011

Duties included piping and equipment design, CAD, and analysis of small bore and large bore process piping and supports for mixed oxide fuel facility.

Product Design Engineer
Kongsberg Automotive, Pickens, SC
2006 – 2008

Duties included piping design, CAD, prototype testing, and improving lean manufacturing process for piping of large bore engines.

Professional Affiliations

Member: American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)
Member: American Society of Mechanical Engineers (ASME)
Member: Indoor Air Quality Association (IAQA)
Affiliate: National Academy of Forensic Engineers (NAFE)
Member: National Fire Protection Association (NFPA)
Member: National Society of Professional Engineers (NSPE)
Member: Society of Automotive Engineers (SAE)

Expert Witness Experience

Depositions

April 2023
Marcin Molinski and Ewelina Luczak vs Casimir Skora and Olga Skora
Expert Witness for Casimir Skora and Olga Skora on behalf of Law Offices of Christina M. Tribbia
Cook County Case No. 2020 L 003100