About Us

“Guided by our core values of technical excellence, innovation and collaboration, client focus, and always doing the right thing, our experts work with the objective of helping our clients make informed decisions.

— Paul Orzeske, CEO
Our Capabilities

JENSEN HUGHES is the consultant of choice for complex investigations and in-depth forensic analysis. We are a dynamic team of consultants, engineers, architects, and scientists that offers a wide breadth of services and comprehensive expertise. We focus on delivering scientifically based analysis in a clear, timely, and professional manner. Our investment in research in all our practice areas enhances our knowledge of emerging technical issues and sets the industry standard for rigorous scientific analysis and reporting.

With over 1200 dedicated professionals, we are a single resource able to provide the support and responsiveness that our clients need. Our diverse team of experts is able to provide field investigation and supporting analysis in our fire, chemical, dust, and metallurgical laboratories; as well as engineering simulation using modern fire, explosion, collision, CFD, and FEA computer models. Our high level international team of civil, structural, geotechnical, mechanical, materials, electrical, chemical, and fire protection engineers have a proven track record of investigating small and large scale complex losses, and effectively communicating the origin and cause for timely and appropriate decision making.

Our forensic engineering and consulting services include:

+ Fire and Explosion Investigation
+ Accident Reconstruction and Vehicle Forensics
+ Biomechanical Engineering and Human Factors
+ Industrial Process and Hazard Analysis
+ Materials and Metallurgical Engineering
+ Electrical and Mechanical Engineering
+ Civil, Structural and Geotechnical Engineering
+ Failure Analysis and Product Liability
+ Construction Defect and Building Damage
+ Scientific Testing and Laboratory Services
Our Services

National and international clients come to JENSEN HUGHES for expert investigations for all types of event and failure scenarios. We are respected for our thorough scientific analysis and experience in meeting the investigative requirements of insurance, corporate, legal, manufacturing, and government clients.

With over 70 offices worldwide, JENSEN HUGHES can provide clients timely site attendance by trained staff regardless of the incident location and complexity.

Fire and Explosion Investigation

From on site investigation to evidence examination and testing, we provide comprehensive fire investigation services supported by an in-depth knowledge of fire science. Our technical approach has been proven over many years and thousands of fires, related to industrial, commercial, residential, heavy equipment, vehicle, and marine cases.

- Origin and Cause
- Fire Spread Analysis
- Explosion Dynamics
- Fire Protection System Assessment
- Code Compliance Review
- Computer Fire Modeling
- Wildland Fire Investigation

Electrical Engineering and Forensics

Our electrical experts can provide a range of engineering and forensic services ranging from the engineering factors impacting low, medium, and high voltage electrical systems to electronics testing, failure analysis and consulting. Using a range of skills and diagnostic tools, we determine root cause and remedial actions related to electrical failures for power utility, industrial, commercial, and residential applications.

- Electrical Equipment Fire and Failure Investigation
- Electric Shock and Electrocutio
- Arc Flash Investigation
- Lightning Strikes
- Industrial Power Systems Inspection and Assessment
- Electrical Safety Compliance
- Consumer Product Failure Analysis
- Battery Hazard Analysis

Mechanical Systems Engineering

Our mechanical engineering team specializes in a wide array of areas including accident reconstruction, mechanical systems assessments, construction defect, design defect, building damage assessment, vehicle & marine fires, personal injury, and product liability.

- Industrial Machinery, Processes and Equipment
- Fire Protection Systems
- Commercial and Recreational Equipment
- HVAC Systems and Water Losses
- Condition Assessments
- Repair and Remediation
We understand the dynamic and kinematic variables of injurious events, and use practiced methodologies to determine injury causation of head and brain injuries, neck and spinal injuries, limb and torso injuries. Our experts are experienced in determining causation of personal injury incidents.

+ Motor Vehicle Collisions
+ Pedestrian Impacts
+ Commercial, Industrial and Recreational Incidents

+ Slips, Trips, and Falls
+ Product Failures
+ Safety Equipment Analysis

Structural and Civil Engineering

Whether you require a structural evaluation, damage assessment, seismic evaluation or repair design, our team of engineers and architects have the knowledge to help and are experienced in determining the cause of damage from both natural and man-made phenomena.

+ Structural Failure Analysis
+ Building Science Evaluation
+ Damage and Building Condition Assessment
+ Construction Defect Review
+ Design Consulting
+ Catastrophe Response
+ Soil and Rock Mechanics Analysis

Geotechnical Engineering

Understanding the “three G’s” of geology, geometry and groundwater are key to our success. Serving owners and insurers in all industries, including mining, energy, and natural resources, our expert services include incident investigation, remediation plan development, and remediation cost assessments.

+ Shallow and Deep Foundations
+ Open Cut and Shored Excavations
+ Gravity and Reinforced Retaining Walls
+ Tunnelling, Underground Mining, Trenchless Excavation
+ Natural and Manmade Slopes
+ Buried Infrastructure
+ Water Resource Dams and Mining Tailings Dams
+ Groundwater and Surface Water

Accident Reconstruction and Vehicle Forensics

Our team conducts accident investigations, accident reconstructions, vehicle fire investigations and vehicle component analyses of cars, bicycles, heavy equipment, motorcycles, marine vessels and trucks throughout the United States and Canada.

+ Accident Reconstruction
+ Component Failures
+ Damage Analysis
+ Photogrammetry and 3D Modeling and Simulation
+ Crash Data Retrieval / Airbag Module Data Analysis (CDR/EDR)
+ Perception Response & Night Time Visibility
+ On-product warnings development and analysis
+ Heavy Equipment

Human Factors and Injury Biomechanics

We understand the dynamic and kinematic variables of injurious events, and use practiced methodologies to determine injury causation of head and brain injuries, neck and spinal injuries, limb and torso injuries. Our experts are experienced in determining causation of personal injury incidents.

+ Motor Vehicle Collisions
+ Pedestrian Impacts
+ Commercial, Industrial and Recreational Incidents
The metallurgical and materials team provides comprehensive failure investigations of a wide variety of materials and components. In addition to comprehensive metallurgical capabilities, we are comfortable investigating any type of material, and have an extremely well equipped polymer failure investigation laboratory.

- Comprehensive Laboratory Analysis
- Corrosion Assessment
- Fractography
- Design and Manufacturing Defect Analysis
- Construction Defect Analysis
- Industrial and Process Failure Analysis
- Fatigue and Fracture Mechanics
- Materials Degradation and Chemical Analysis

Before or after an incident, our extensive engineering design experience can help you make risk-informed decisions to protect people and property. We are global leaders in safety and risk-based science, with a mission to advance the science of safety to address important threats and hazards where our clients live and work.

- Hazard Analysis and Risk Management
- Material Testing and Hazard Evaluation
- Equipment and Building Hazard Evaluations
- Dust Hazard Analysis
- Security Design and Consulting
- Life Safety Audits and Code Consulting

Our in-house laboratory, testing, and modeling services provide extensive capabilities in support of our investigative work, using the most advanced equipment and techniques. We are leaders in the development and application of tools to analyze and evaluate competing scenarios, and determine the causation of product failures and industrial mishaps.

- Fire and Explosion Modeling
- Corrosion Analysis
- Combustible Dust Explosion Testing
- Finite Element Analysis
- Computational Fluid Dynamics
- Chemical and Materials Analysis
- Small, Intermediate and Large Scale Fire Testing
- Metallographic Analysis
- Power Quality Analysis
- Product Testing
- Nondestructive Testing (NDE)
- Environmental Chamber
Global Leaders and Industry Experts

Our highly trained and nationally certified electrical, mechanical, and metallurgical engineers and our team of origin & cause investigators have specialized skills from advanced education, ongoing training, industry involvement and years of hands on experience.

Our experts are recognized as industry leaders in their fields with years of active participation with regional, national, and international committees and regulatory bodies, including:

- American Concrete Institute (ACI)
- American Institute of Architects (AIA)
- American Society for Testing and Materials (ASTM)
- American Society of Civil Engineers (ASCE)
- American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)
- American Society of Mechanical Engineers (ASME)
- Institute of Electrical and Electronics Engineers (IEEE)
- International Association of Arson Investigators (IAAI)
- International Code Council (ICC)
- National Association of Corrosion Engineers (NACE)
- National Association of Fire Investigators (NAFI)
- National Fire Protection Association (NFPA)
- Society of Automotive Engineers (SAE)
- Society of Fire Protection Engineers (SFPE)