

Expert Capabilities Statement

TYLER G. COLWELL, P.E.

Principal HVAC & Mission-Critical Mechanical Engineer | Forensic Analysis | Code Compliance
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Three+ Decades of Quietly Authoritative Technical Leadership

1992 (age 27) – Solo research proving proximity transducers detect rolling-element bearing failures far earlier than accelerometers. Published in *Orbit* magazine; codified in **API 670 & ISO 20816** for global diagnostics standards.

1993 – Presented *Orbit* research at Symposium on Industrial Applications of Gas Turbines, Canadian Gas Association, Banff, Alberta.

2007–2020 – Designed 100+ energy-efficient U.S. data centers, including state-of-the-art HVAC/power systems exceeding ASHRAE & Title 24.

2015 – Lectured/conducted vibrations lab, Cal Poly Mechanical Engineering Dept., San Luis Obispo, CA.

2015 – Published plain-English guide to CA Title 24-2013 data center cooling in *Data Center Journal*, resolving confusion and enabling compliant data center expansions.

2015 – Authored 15-page *Automobile Accident Reconstruction Primer*—called “cleanest physics treatise most attorneys have seen”; nationwide teaching reference.

2021–2025 – Designed large-scale HVAC for commercial/military facilities, exceeding IMC, UFC, & IBC for performance/efficiency.

Same engineer. Same clarity. Same rigor. 35 years and running.

Core Expertise

- HVAC design/construction/failure & code compliance (UMC, IMC, IBC, Title 24, ASHRAE)
- Mission-critical facilities/data centers (cooling, PUE, economization, reliability)
- **First-principles physics** – Defensible analyses from fundamentals
- Machinery/mechanical failure (bearings, guarding, industrial accidents)
- Building/energy code disputes & product/premises liability

Case History

- **2013: Commercial Tenant Facility Dispute** – Chiller/air handler failure analysis (plaintiff)
- **2015: Federal Facility Defect** – Attic walkway/HVAC integration analysis (defense)
- **2015: Big Rig vs. Sedan (Red Bluff, CA)** – Reconstruction (plaintiff)
- **2017: Kyoto Cooling v. Nortek** – Data center cooling patent litigation (plaintiff)
- **2023: Multi-Site HVAC** – Code/efficiency forensic upgrade (non-litigation methods)

2026 Fee Schedule (Transparent & Attorney-Friendly)

File Review/Report: \$475/hr

Deposition: \$600/hr (4-hr min) or flat rates

Trial: \$700/hr portal-to-portal or flat rates

Retainer: \$6,000 (credited). No billing surprises.

I answer my own phone. Available for no-cost initial consultations.

Bearing failure research articles, AR Methodology Primer, & Data Center Compliance article are available on [request](#).