



## CONSULTING SERVICES

Clients rely on HP&D for a wide range of consulting services because they know our engineers and technical staff have unparalleled experience unraveling equipment performance and interface issues. We understand the challenges our clients face and offer the following consulting services to address their unique needs.

### LIVE-SITE IMPLEMENTATION CONSULTING

The stakes are high when modifying electrical and mechanical systems on a live site. Therefore, live sites need a consultant who specializes in energized systems. We give our clients peace of mind by:

- Applying a global understanding of the installed system and equipment limitations to develop recommended approaches
- Verifying safety procedures are adequate and consistently followed
- Implementing best practices for tracking and resolving issues
- Developing and reviewing methods of procedure (MOPs) and other system documentation
- Coordinating multiple trades and activities

### QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

Quality Assurance/Quality Control (QA/QC) is a systematic on-site audit that verifies the installation and completion of the startup protocol of Mechanical, Electronic, and Plumbing (MEP) facility equipment and that the equipment is ready for commissioning. We tailor a QA/QC approach to each project's unique requirements and environment, including:

- Best practices for that installation
- Sequencing
- Documentation
- Contractor oversight
- Startup assistance
- MEP coordination
- Installation review

We work seamlessly with contractors, installers, and manufacturers to align priorities and perspectives using a common-sense approach considering manufacturers' recommendations, best practices, and industry standards.

### POWER QUALITY AND LOAD ANALYSIS

Quality and reliability are critical in today's world. Interruptions, disturbances, and extended power outages can result in equipment damage and lead to unscheduled downtime. We monitor power quality to look for:

- Excessive harmonics
- Waveform distortion
- Abnormal voltages
- Voltage spikes
- Power anomalies

The National Electric Code (NEC) article 220.87 recommends a 30-day load analysis and demand study before adding more equipment to electrical panels. A proper load analysis helps to identify current load level, available capacity, and any disturbances to the electrical path.



### OUR LOCATIONS

#### Georgia (Corporate)

850 Center Way  
Norcross, GA 30071  
(770) 453-1410

#### Arizona

1525 North Hayden Rd.  
Suite 100  
Scottsdale, AZ 85257

#### Tennessee

1531 Hunt Club Blvd.  
Suite 200  
Gallatin, TN 37066  
(615) 527-7084

#### Texas

15924 Midway Rd.  
Addison, TX 75001  
(214) 461-0760

#### Virginia

4511 Daly Dr.  
Suite I  
Chantilly, VA 20151  
(571) 299-6773

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## FACILITY ASSESSMENTS

In a facility with integrated systems, keeping equipment and systems running efficiently and maximizing life cycles can be challenging. Critical facility systems are extremely complex, and the stakes of a power outage can be detrimental. This creates a high-pressure situation for those tasked with operating and maintaining these systems, and facility staff turnover makes consistent training and knowledge transfer challenging. HP&D helps clients maintain these complex systems with a variety of facility assessment services, including:

- Maintenance program assessment
- MOP assessment
- Live-site assessments
- Reliability studies
- Energy audits

## SYSTEM INTEGRATION

As IT demands increase, a coordinated system is essential for businesses to function properly. System integration increases productivity, improves efficiency, and adds value for clients. Our specialists link various equipment, systems, and software to aid functionality across the platforms. Benefits of system integration include:

- Effective information exchanges
- Well-organized company processes
- Improved work efficiency
- Enhanced system operations

## SAFETY ASSESSMENTS

Ensuring the safety and health of your employees is the right thing to do. Our safety professionals are trained to assess your company's structure for safety effectiveness and compliance, identify where additional efforts are needed, and highlight what your company is doing well. Safety assessment services include:

- Program assessments
- On-site safety regulatory audits
- Regularly scheduled safety inspections
- Arc flash hazard assessments

## PEER REVIEW

HP&D works with design engineers to align theoretical design with practical implementation. Our experts consider the design from the end user's perspective to minimize issues and conflicts by:

- Identifying opportunities to reduce cost without sacrificing quality
- Looking for inconsistencies between drawings and specifications
- Evaluating installation details for constructability, commissionability, operational impact, and maintainability
- Applying relevant lessons learned from past engagements

## THE HP&D DIFFERENCE

HP&D is a customer-driven, employee-owned, collaborative team of engineers, technicians, and service professionals. Our staff comprises electrical and mechanical licensed Professional Engineers (PEs), Engineers In Training (EITs), LEED® AP and LEED® Green Associate™ credentialed professionals, graduate engineers, electricians, technicians, systems integrators, project managers, and support professionals. Together, we deliver a unique blend of talent and experience with custom solutions designed specifically for the challenges you face, the technical expertise you need, the reliable service you deserve, and the quality your customers demand.

HP&D is a wholly-owned subsidiary of Patterson & Dewar Engineers, Inc. ([pdengineers.com](http://pdengineers.com)), which has provided electrical and civil engineering services to electric utility clients since 1947.

**For more information, visit us on the web at [hoodpd.com](http://hoodpd.com) or call (770) 453-1415.**

