



CONTRACTOR PROFILE

Dubak Electrical Group is a High Performance and Quality Driven
Industrial Electrical, HVACR, Control and Automation Contractor

- » industrial electrical contractors
- » hvacr
- » maintenance
- » design
- » integration



Why Dubak?

Quality is a Standard.

Safety is Our Culture.

Committed to Clients.

Innovative Solutions.

HIGH PERFORMANCE ELECTRICAL SOLUTIONS FOR OVER 30 YEARS

■ ABOUT DUBAK

Dubak electrical is a national leader in the electrical, automation, & technology sectors, and is dedicated to providing the industry's most skilled craftsmanship, impeccable performance, and competitive pricing to our clients across the nation.

Dubak Electrical has emerged as a pacesetter and a leader in the Electrical Construction & Maintenance field since industry realized that a single-source turnkey electrical group has proved to be the cost-effective approach to reliable plant operation. Dubak Electrical has offered clients construction & maintenance programs that ultimately reduce cost and demands, while maintaining stringent quality measures.

Dubak Electrical is a family-owned and operated company with an excellent record of success. Since 1988, we have consistently demonstrated a level of integrity and stability that has led to many continuing relationships with clients who appreciate our reliable and timely completion of projects, and our leadership.

PROVEN PERFORMANCE | TECHNICAL EXPERTISE | RELIABLE QUALITY



INDUSTRIES WE SERVE



CHEMICAL



FOOD PROCESS



MANUFACTURING



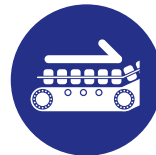
DAIRY



BEVERAGE PROCESS



PHARMACEUTICAL



PROCESS



WATER / WASTE WATER



MISSION CRITICAL



PETROCHEMICAL



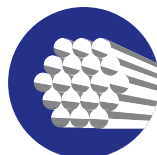
LIFE SCIENCE



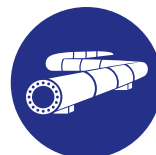
DRUM INDUSTRY



STEEL MILL



PIPE AND TUBE



PIPELINE



ETHANOL
(CORN & CELLULOSTIC)



Dubak Electrical Group™

OUR CORPORATE VALUES

We respect the individual

and believe that individuals who are treated with respect and given responsibility respond by giving their best.

We are frugal.

We guard and conserve the company's resources with the same vigilance which we would use to guard and conserve our own personal resources.

We are believers in the Golden Rule.

In all our dealings we will strive to be friendly and courteous, as well as fair and compassionate.

Quality is a Standard.

Our goal is simply to be the best and to continually improve. This is accomplished through focused teamwork, pride in our work, quality controlled systems, and by hiring and educating the best people we can possibly find. Our team members are quality focused.

Safety is our Culture.

Keeping our employees and our client projects safe are the most important matter to us, and safety will always come first as we strive for accident-free projects. We are committed to safety.

Committed to Clients.

We feel a sense of urgency on any matters related to our clients. We own problems and we are always responsive. We are client driven.

Innovative Solutions.

Our team members are focused, developed, and proficient on the most advanced technologies, methods, and processes in the industrial engineering, construction, & maintenance sector. We are experts in our field.

**Our company leaders, management,
& employees make our values visible.**

LEADER IN ELECTRICAL CONSTRUCTION AND MAINTENANCE



CLIENT SATISFACTION

Superior Field Leadership & Project Management

Dubak Electrical, its senior management, and field supervision teams are comprised predominately of trades people with advanced education, training and experience in electrical and instrumentation capital construction & maintenance. The Dubak Electrical model of service excellence began in 1988, when Vast "Val" Dubak ventured out on his journey of the American Dream. This journey involved the creation of his own organization with the purpose of delivering the highest quality and safest performance in the industrial electrical contracting arena.

Val Dubak - joined by his son Nick in 1995 - have together, along with their team, developed a national reputation in the merit shop and industrial construction trades as a group who can execute the most complex of projects within very tight and pressing timelines. Upon the founding of Dubak Electrical, our field performance, proven expertise, and dependability in the industrial sector are the components that have flourished Dubak Electrical into the high performing organization which it has evolved and developed into. Today, Dubak Electrical management resources are fully integrated. Dubak Project Teams have versatile-training across all of our national markets, giving our organization flexibility to resource and specialize in project-specific challenges.

Innovative Electrical Solutions

For the purpose of streamlining work flow, Dubak Electrical developed and integrated a seamless delivery of projects and maintenance to its clients via customized project management software called "DuTrak." DuTrak encompasses real-time control processes for all its capital & maintenance projects.

Corporate & Craft Resources

- Regional Presence throughout the country with multi-state licensing
- Database of over 300 skilled craft personnel and supervision in multiple electrical, instrumentation, HVAC, & controls disciplines.

Diversified Growth through Various Industries

Dubak Electrical has grown by reputation and through repeat opportunities by providing high performance electrical solutions to its clients, both in the private industrial sector and with many Fortune 500 clients.

LABOR RESOURCES

Clients often inquire as to DubakElectrical's ability to attract and maintain such a skilled electrical & instrumentation workforce while working in so many regions throughout the country. Dubak Electrical has developed a plan and strategy which employs the highest of pre-qualifying skill-set standards in the electrical industry. Dubak Electrical maintains a robust and strong core of national field management, supervision, and journeymen on a routine and fulltime vested status. Our recruitment efforts for staffing larger scale projects or maintenance initiatives begin at the local level. All of our projects begin with a pre-job analysis, addressing labor resource requirements in detail. Our resources may originate through our direct hire, seasonal hire, membership affiliations with the Associated Builders & Contractors (ABC), or via select few pre-qualified technical

craft labor network providers with whom we maintain close relations, and stringent prequalification processes.

Much of Dubak Electrical's success has come from the "Dubak Craft System," where an employee on a Dubak project tells others about their experience working for Dubak Electrical. The Dubak Craft System was created by means of employing over 300 craft laborers across the nation since 1988. These professionals know the exceptional safety training, tools, material, equipment and supervision to get the job done right. There is nothing a MERIT SHOP Dubak craftsman likes better than a chance to do a great job. Today, we, at Dubak Electrical, maintain numerous examples of how this works around the country for Dubak Electrical.





SAFETY PROGRAMS

- Full-time Safety Director
- Safety Manual for Industry
- Daily Safety Meetings
- Weekly Safety Audits
- Pre-job Meetings
- Progressive Disciplinary Policy
- Drug Testing
- Test for Cause
- Accident/Near Miss Investigation
- Safety Training (includes new hire orientation)
Yearly Supervision Appraisals tied to
- Safety Performance
- PSA. A pre-job assessment of known or predictable hazards
- Job Safety Analysis - JSA



DIAMOND STEP AWARD



Nick Dubak, Chief Operating Officer
Dubak Electrical Group

“If a job cannot be performed in a safe manner, then we will not perform it until a safe approach is arrived at.”

OUR COMMITMENT TO SAFETY

safety... our most important matter

At Dubak Electrical, Safety is our primary concern. That's why we have a companywide goal of zero injuries and accidents on every job we perform. Through constant reiteration of our safety procedures, immediate response to all unsafe acts, and positive reinforcement of safe behavior, we have been very successful in the reduction of higher-risk activities. Our safety record works for you with a reduction in our E.M.R. and lowered insurance costs, a savings which we pass on to the customer, as well as personal comfort of finishing each day accident free.

Dubak Electrical recognizes that safety is the most important aspect of our business. We owe it to both our customers and our employees to maintain the highest of standards

when it comes to safe working conditions and methods. Our Safety Committee is comprised of top-level management from all divisions. They work closely with the Dubak Electrical Safety Director and consultants to review and update current policies and procedures; this guarantees the highest possible level of safety performance.

As our company has grown, we have stepped up our efforts to ensure safety on each and every project. This includes safety orientation for new personnel, a companywide awareness and incentive program which promotes a safe working environment, and yearly safety orientation of ALL field and management personnel.





QUALITY ASSURANCE PROGRAM

At Dubak Electrical, Quality is a Standard. We are committed to the efficient delivery of Quality Project & Maintenance Services to each and every client we touch, each and every time. Our stringent Quality Assurance Practices ensures that our clients will receive consistent quality & delivery each and every time.

Our Quality Assurance System (QAS) gathers all pertinent details to the project scope, captures the project scope installation requirements, sets standard installation procedures, provides for a consistent quality work product, and accounts for full traceability to installation work performed by Dubak Electrical's resources.

QUALITY POLICY

"Dubak Electrical Group strives to deliver the highest performing electrical construction & maintenance project delivery with the highest regard in safety and quality to it's clients within schedule and for the best possible value."

OUR QUALITY ASSURANCE PROGRAM INCLUDES THE FOLLOWING:

- Project Specific Quality Assurance Programs
- Drawing & Schematic Review QA
- General Arrangement Review and Coordination of E & I Equipment QA
- Maintain to Specification QA
- Value Engineering QA Services
- Coordination of Installation with other Trades QA (Prevent Routing Conflict)
- Raceway Installation QA. (Cable Tray, Conduit, Wireway, Etc.)
- Wiring Termination Documentation and Work Packages; full traceability of wiring terminations for power, control, & instrumentation
- Electrical & Instrumentation QA - Quality Installation to NEC, Municipal, and State Standards



FOOD, BEVERAGE,
PHARMACEUTICAL







DESIGN | DESIGN-BUILD | DESIGN ASSIST

DUBAK ELECTRICAL PRIDES ITSELF ON THE REPUTATION THAT IT HAS BUILT WHILE PROVIDING ELECTRICAL DESIGN, ELECTRICAL INSTALLATION AND ELECTRICAL MAINTENANCE FOR INDUSTRIAL PROCESSING FACILITIES. OUR 100% COMMITMENT TO CUSTOMER SATISFACTION ENSURES THAT OUR CUSTOMERS HAVE A COMPETITIVE ADVANTAGE ON ALL OF THEIR ELECTRICAL AND MECHANICAL PROJECTS.

OUR CAPABILITIES INCLUDE:

ELECTRICAL:

- Virtual Design
- 3D CAD Drawings
- Single Lines
- Utility Service Coordination
- Electrical Audits
- Field Discovery
- Electrical C/W Schedules
- Electrical Distribution & Downstream Schedule
- Medium and Low Voltage Design
- Value Engineering

MECHANICAL HVACR:

- HVACR System Design
- HVACR Equipment General Arrangement
- HVACR Equipment Schedules

- Equipment Selection / Specifications
- Process Equipment General Arrangement & Scaled Designs
- Value Engineering

VALUE ADDED SERVICES:

- Cost Improvement
- Value Engineering
- Life Cycle Expenditures
- Capital Cost Expenditures
- Project Management
- Scheduling
- Procurement
- Installation
- Process Training
- Service & Maintenance



PROJECT MANAGEMENT



THE PROJECT MANAGER IS THE CENTRAL CONTACT FOR ALL PROJECT NEEDS AND IS EXPERIENCED AT MANAGING COMPLEX PROJECTS. DUBAK ELECTRICAL PROVIDES A HIGHLY QUALIFIED AND DEDICATED PROJECT MANAGER TO EACH CLIENT. IN ADDITION TO HELPING CLIENT'S SCOPE ON PROJECT NEEDS THE PROJECT MANAGER IS RESPONSIBLE FOR:

- Schedule Development
- Tracking Project Progress
- Executive Strategy
- Build Communication Strategies
- Budget Maintenance
- Streamline Project Delivery
- Project Team Selection
- Status Reporting

Project Management discipline, expertise, and successful execution leads to project success for Dubak Electrical. Our demand for having the best trained Project Managers and contractor management services in the business equates to well-run project and maintenance sites for our clients.

Our goal is to have a seat at your "planning table" adding valuable insight to the entire construction process at this high-leverage time.

With our partnering process, and project Or maintenance experts in the Electrical, Instrumentation, & Controls arenas, we at Dubak welcome the chance to offer our expertise with project planning, design arrangements, layout, pre-engineering, control architecture, cost estimating and project management services.

PROJECT MANAGEMENT & CONTROLS

Project & Maintenance Scheduling

Project or Maintenance Scheduling is not a onetime act, but rather is a living and breathing work process which we live by. The schedule document that is utilized is one of our greatest and most valuable streamlining, planning, communication and measurement tools.

Dubak Electrical uses the most up-to-date scheduling software packages and dedicated expertise to schedule projects. Project managers complete multi-week look-ahead schedules and weekly progress updates fo our clients.

Client Communication & Updates

We prefer to not surprise our clients - unless of course - it's a good surprise. We accomplish this with consistent communication and updating of critical data to make a project

successful. Weekly progress updates help keep us on track with the rest of the project.

Our intent is to proactively identify open items or out layers and offer solutions and answers as these issues arise. Specifically utilizing web based collaboration software we can keep our clients in communication at all times.

Project Controls

Construction project personnel utilize our scorecard system to know weekly how the projects are performing on several key control points. Purchase orders and man-hours are maintained daily to ensure that current information is always available.

Lean Construction Methods

Our project delivery team uses Lean Methods to provide clients with the greatest productivity possible. This includes offering the most efficient on-site footprint with the use of vendor and supply chain management skills that leverage offsite material staging and Just in time (JIT) material delivery. We maximize value provided to our clients by eliminating non value added activities.

DuTrak

Along with our standard project controls, **DuTrak** is our internal web-based software and project control platform. This is used to plan, track, and collaborate on each electrical project and maintenance activity for a given client from planning, to design through startup. During construction, all electrical components are tracked to provide updates on which items have been piped, wired, terminated, and quality checked.



DuTrak is Dubak Electrical's Project Management Process and Application



POWER

AT DUBAK ELECTRICAL, OUR HIGHLY EXPERIENCED TEAM MEMBERS ARE DEDICATED TO THE CREATION OF INNOVATIVE SOLUTIONS BASED ON YOUR SPECIFIC REQUIREMENTS AND ARE PREPARED TO DESIGN, CONSTRUCT AND TROUBLESHOOT EVEN THE MOST COMPLEX INSTALLATIONS. SINCE OUR REPUTATION IS BASED ON CUSTOMER SATISFACTION, WE ARE COMMITTED TO YOUR PROJECT FROM CONCEPTION THROUGH IMPLEMENTATION AND SUPPORT.

- Bus Duct & Riser Feeders
- Power & Control Wiring for Processing and Manufacturing Equipment
- Power for Commercial and Industrial Projects
- Computer Room Installations
- Emergency Services

SYSTEM DISTRIBUTION (SD)

- New Construction and Terminations
- Up to 69K volt Primary and Secondary Extensions
- Cable Section Replacement for Faulty Circuits

- Reconstruction & Emergency Restoration
- Uninterruptible Power Systems
- Generator System Installation
- Preventive Power Maintenance Programs
- Equipment Relocations, Additions, & Alterations

MISCELLANEOUS MAINTENANCE

- Equipment Relocation
- Raising & Lowering of Equipment
- Cable Relocations

**ABB • Allen Bradley • Cutler Hammer • ETN
General Electric • Simens • Schneider Electric**



On-call services **24 hours a day, 7 days a week**, to prepare for the unexpected emergencies should a failure occur outside of normal business hours.

24 HOUR EMERGENCY DISPATCH SERVICES 1.800.677.6303





CONTROL & AUTOMATION



Dubak Electrical control system engineers are capable of designing, fabricating and constructing; control panels, electrical control design, PLC programming, and Human Machine Interface (HMI) programming. Our staff - with over 20 years of experience - consists of programmers, designers, panel builders, and support personnel providing a complete solution for plant automation. We have years of experience in Allen Bradley, Siemens, Omron, General Electric and many other control and automation processors.

Our graphical interface experience includes products such as: Controlview, Cmore, Factorylink, Intellution, InduSoft, PlantPax and Wonderware. These graphical interface packages, along with our heavy emphasis in data acquisition and programming capabilities, allow for a robust control system which allows the customer to maximize their investment.

OUR CAPABILITIES INCLUDE:

- Junction Box Assemblies
- Control Panels
- PLC Systems & DCS Systems
- Single & Multi-Loop Control System Panels
- Custom Fabrication Panels
- Designing, Fabrication, Testing, Installation & Labeling



**Factory Talk • Rockwell Automation • DeltaV • Plant Pax
Wonderware • Simens • Fix**



CONTROL PANEL SYSTEMS

For over 30 years, Dubak Electrical Group's electrical and control panel fabrication division has been capable of meeting our customers' needs in engineering, design and fabrication.

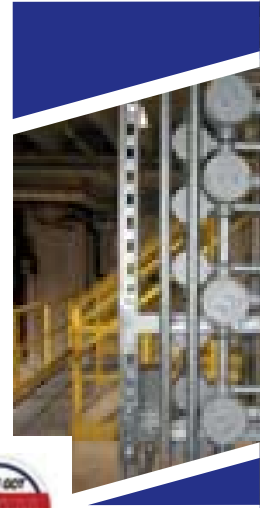
Our custom control panels and system assemblies range from small single junction box assemblies to multiple-enclosure PLO and DCS systems. Our panel fabrication division has over 10,000 square feet allowing us to provide: inventory, fabrication, staging factory testing, and shipping of even the largest panel systems.

Dubak Electrical Group's professional staff has the knowledge, skill and proficiency to have designed, programmed and commissioned state of the art process control systems for a large number of major industrial and commercial clients in the food processing, alternative fuel processing, chemical processing and multiple manufacturing processes. Dubak Electrical ensures that your order is ON TIME, EVERY TIME!

OUR CAPABILITIES INCLUDE:

- All NMA Configurations
- Custom Design
- Rapid Delivery
- 24 x 7 Support





INSTRUMENTATION

Dubak Electrical instrumentation solutions provide customized instrumentation systems from design to installation, and service. Our instrumentation team takes pride in their ability to meet project schedules and exceed expectations of our customers. In addition to engineering and design, we offer calibration, commissioning, preventive maintenance and start-up assistance for any size and type of instrumentation project. Whatever your needs may be, Dubak Electrical instrumentation team has the ability to get your project done on-time and on-budget.

The instrumentation team's brand independence objectivity allows them to deliver instrument packages properly applied to customer's processes. Dubak Electrical instrumentation team also provides services such as end user training, feasibility studies, and asset management systems.

- Instrument and control maintenance
- Hydraulic and pneumatic tubing
- Custom tubing layout and installation
- Calibration and bench testing services
- System evaluation and testing
- Distributed control system (DCS)
- Programmable logic controllers (PLC)
- Microprocessor-based system control
- Instrument panel and rack fabrication
- Startup and checkout assistance
- Shutdown and outage work
- Maintenances planning
- Return on investment feasibility studies
- Efficiency studies

Start-up & Commissioning - The final step in the process is start-up. Having verified all loops and control functions the technician can now "start-up" each system.

Each step of this process is documented per owner requirements. All calibration test standards may be certified by an independent calibration laboratory and are fully traceable.

PREVENTATIVE MAINTENANCE SERVICES

Dubak Electrical has expertise in the maintenance of process control related equipment using a wide variety of applications (analog, digital, pneumatic, hydraulic, programmable logic control, distributed control systems).

Instrument brands we install, maintain and service include:

Foxboro	Micromotion	Rockwell	Fisher & Porter	ABB
Honeywell	Siemens	Rosemount	Endress + Hauser	Many Other Major
Bailey	Emerson	Omron	Parker Hannafin	OEM's...

Our client's instrumentation is monitored by a tracking software that will indicate due dates and trends in calibration errors. Dubak Electrical can support most every Quality System. Dubak Electrical adheres to ISA, NCCER, and ANSI standards. Dubak Electrical calibration data reporting system provides all necessary documentation.

QUALITY ASSURANCE

Our Quality Assurance Program describes the control procedures implemented by Dubak Electrical ensuring the quality of instrumentation control installation or maintenance.

Our QA Program Documents:

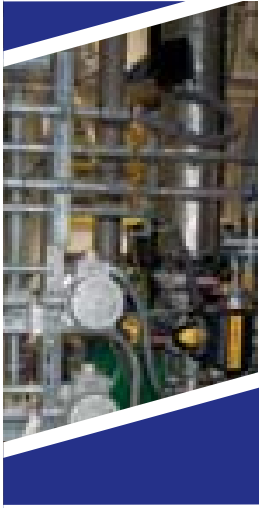
- Certify all Test Equipment to ISA / NCCER standards

Document and traceability all Activities

- Control Documents
- Inspect and Pressure Test Installations
- Ensure Correct Installations

Additional Services Provided

- Supplementing of In-House Maintenance Staff
- Off Site Warehousing



DUBAK INSTRUMENTATION CAPABILITIES

Dubak Electrical is one of the highest performing instrumentation contractors in the country, with extensive relevant trade and management experience. Our personnel are skilled in both comprehensive electronic and select mechanical side disciplines. We take pride in our ability to meet demanding project schedules and exceed the expectations of our customers. Our experience and skills combine to provide our clients premier service with great depth of expertise. Our capabilities include: new construction services, capital expansion, plant relocation, process consolidation, plant maintenance contracts, supplemental maintenance for routine or shutdown/turnaround activity.

PROJECT CONTROLS

All Dubak Electrical projects are managed using proven techniques that have been extensively developed to ensure complete client fulfillment.

These include:

Instrument Procurement and Inventory Control (Care Custody and Control) –

We can provide complete instrument inventory management. If required, we can inventory, store, and control the distribution of all loose process control instruments.

Document Control – We catalogue and control all instrumentation documents from drawings to calibration data sheets. This function can also include the creation of “Instrument Turnover Packages” which are written checklists, by loop or by system, detailing compliance of all.

Scheduling – Detailed schedules can be provided assisting the management teams in assigning the work and tracking progress.

Cost Control – Larger projects may require advanced cost control measures that could include productivity tracking, dedicated onsite material purchasing, and expenditure reporting against proposed budgets.

MECHANICAL INSTRUMENTATION DISCIPLINES

Dubak Electrical can provide the mechanical installation of all process instrumentation. Dubak Electrical accomplishes this installation with highly trained personnel experienced with control system installations.

The types of devices we install include

- Instrument stands and supports
- Flanged or threaded direct mount instruments
- Environmental enclosures
- Process tubing including pre-insulated, traced multi-tube bundles
- Capillary type process sensing lines
- Air drops (air supplies)
- Tube tray or raceway
- Conduit for poly-tubing
- Sample systems and panels

TECHNICAL DISCIPLINES

Dubak Electrical can provide certified process control technicians for new construction or maintenance

Instrumentation Services we perform:

Instrument Verification – This step involves checking all process controls against customer purchase orders to verify the instrument matches the purchase order and has not been damaged in shipment. This can be done in conjunction with the Dubak Electrical Custody and Control program.

Bench Calibration – This critical step involves verifying all set points, outputs, and ranges against the design criteria prior to installation. Each instrument receives a multi-point check to make sure it performs to owner specification. All control functions are checked, and if required, set points are programmed. Even “factory calibrated” instruments may be checked since shipping and handling can often disturb the settings. Bench calibration allows for a smoother progression in later phases of work such as loop check and start-up. There will be less chance of costly system upsets and delays caused by malfunctioning or non-calibrated hardware.

Loop Check – This step involves signal checks after installation. Technicians go into the field and send actual signals from each transmitting device back to the controllers and from the controllers to the final control element. This can be accomplished using simulated signals (dry) or by filling the system with inert fluids or gases to simulate the actual process conditions (wet). Loop checks let the owner know everything has been installed properly, is functioning and ready for start-up.



The National Center for Construction Education and Research (NCCER)



International Society of Automation



LIGHTING

For a cost-effective and innovative lighting solution, our design and installation services include a variety of customized choices, with a wide range of consultants and designers.

Dubak Electrical Group has strived to be the lowest cost provider of quality lighting installations to our customers. Dubak Electrical is well-positioned to offer customers complete turnkey services, from design to installation as well as emergency maintenance and repair.

LIGHTING CAPABILITIES & SERVICES):

- Industrial and Warehouse Interior Lighting Solutions
- Hi-Bay LED Warehouse Lighting. (New & Retrofit Solutions)
- Hi-Bay Fluorescent Lighting. (New & Retrofit Solutions)
- High Intensity Discharge Lighting (H.I.D.)
New & Retrofit Solutions
- Food & Beverage Industry Rated Lighting
(GMP Compliant)
- Oil & Gas Listed Lighting (XP, Oil, & Dust Tight)
- Lighting Audits with Payback Analysis (ROI)

COMMERCIAL / OFFICE ENVIRONMENT LIGHTING:

- Interior Architectural Lighting, Incandescent, Fluorescent and New LED Lighting Solutions
- Direct / Indirect Lighting
- Atmosphere Lighting
- Classroom Lighting
- Dimming & Lighting Control Systems
(GMP Compliant)
- Retail Store Lighting
- Low Voltage Lighting Solutions
- Decorative Lighting

EXTERIOR LIGHTING:

- Parking Lot / Pole Lighting. Maintenance, Repair, Installation, & Retrofit
- Municipal Street Lighting
- Parking Garage Lighting
- HID, Metal Halide, High Pressure Sodium, Mercury Vapor, & LED Lighting
- Maintenance, Retrofit, Installation, & Repair
- Underground Cable Repair or Replacement
- Emergency Service for Downed Poles.
(Motor Vehicle, Wind, & Storm Damage)

ComEd Trade Ally



HEAT TRACE CAPABILITIES

DUBAK ELECTRICAL APPLIES FIELD-PROVEN DESIGN TO MAKE HEAT TRACE SYSTEMS RELIABLE AND SIMPLE TO MAINTAIN AND OPERATE.

WE CREATE TURNKEY HEAT TRACING ON ANY SCALE – SAFELY, EFFICIENTLY, AND COMPETITIVELY. WE TAKE PRIDE IN DELIVERING PROJECTS ON SCHEDULE AND ON BUDGET, THROUGH SUPERIOR PERSONNEL, SUPPLIERS, SAFETY AND PROJECT MANAGEMENT.

- Project Budgeting and Specifications
- Heat Trace System Design, Engineering and Drawings
- Heat Trace Power Distribution
- Heat Trace Ground Fault Protection Systems
- Automated Heat Trace Controls
- Material Procurement
- Project Management and Quality Control
- Installation
- Custom fabrication of cable to any length
- Start Up Commissioning
- Maintenance, Troubleshooting and Repair
- System Evaluation and Documentation



Chromalox • Pentair • Raychem • Thermon • Tyco



CONTRACT MAINTENANCE

For over 30 years, Dubak Electrical has worked to become a leader in providing cost-effective contract maintenance services to our Industrial clients. Our continuous contracts with multiple Fortune 500 firms are an indication of our value in the industrial sector. Our experience with contract maintenance has given us the expertise to help reduce your annual cost without sacrificing safety or quality.

In our market sectors, where competition is driven primarily by cost, facility and plant maintenance is a required service. Contract maintenance is the most cost-effective and reliable approach to ensuring a plant's operation. Our highly experienced workforce – consisting of extensively trained and experienced journeymen – assures excellence, control, and accountability. Whether your needs revolve around full time or periodic contract maintenance, Dubak can be your single-source provider for plant contract maintenance requirements.



OUR SERVICES INCLUDE:

- Preventive Maintenance Programs
- Predictive Maintenance
- Duty & Task Analysis
- Shutdown Planning & Coordination
- Maintainability & Operability Coordination
- Material Warehousing & Management
- Facility Maintenance

POWER :

- Switchboards
- Switchgear
- Electrical Distribution Panel Maintenance
- Motor Control Centers / Motor Controls
- Preventative Maintenance
- Color Thermography
- Migrating
- Cable testing HiPot

LIGHTING :

- Re-Lamping, Re-Ballasting
- Fluorescent
- LED Lighting
- H.I.D.
- Metal Halide & High Pressure Sodium Systems
- Incandescent Systems
- Troubleshooting Wiring

CONTROL SYSTEM/ AUTOMATION :

- Programmable Logic Controller
- Programming All Makes And Models
- System Troubleshooting
- PLC Replacements / New Installations
- Process Management Systems
- Software Programming And Screen Design
- DCS Distributed Control Systems



HVACR CAPABILITIES

AT DUBAK ELECTRICAL, OUR EXPERIENCED, EXPERT, LICENSED, AND CERTIFIED HVAC TECHNICIANS HAVE THE QUALIFICATIONS AND AWARENESS TO IDENTIFY, SERVICE, AND REPAIR ALL OF YOUR HVAC EQUIPMENT.

OUR LEVEL OF EXPERTISE, TRAINING EQUIPMENT, AND OPERATIONS ENABLES OUR HVAC TECHNICIANS TO EFFICIENTLY AND EFFECTIVELY INSTALL, SERVICE, OR PERFORM PREVENTATIVE MAINTENANCE ON EQUIPMENT. THIS INCREASES THE RELIABILITY, PERFORMANCE, AND OVERALL EQUIPMENT EFFECTIVENESS OF HVAC EQUIPMENT. ADDITIONALLY, IF UNEXPECTED BREAKDOWNS OCCUR, OUR TECHNICIANS ARE ABLE TO PROMPTLY DIAGNOSE AND REPAIR BREAKDOWNS, THE FIRST TIME.

- Steam, Hotwater, Gas & Electric Heating
- Chilled Water Systems (Chillers & Cooling Towers)
- Air Handling Systems (AHU's)
- Rooftop HVAC Units (RTU's)
- Air & Water Cooled Condensing Units
- Process Cooling Equipment
- Refrigeration Systems (Industrial / Commercial)
- Boilers & Burners
- Pumps
- Testing & Balancing
- Computer /Data Room Cooling
- Heat Exchanger Services
- Eye Wash Stations
- Unit Duct Heaters
- Humidification & De Humidification Systems
- Filter Maintenance
- Oil, Refrigerant, & Vibration Analysis
- Refrigerant Recovery & Storage
- Leak Detection
- Relief / Isolation Valves
- Refrigerant Conversion
- Equipment Replacement
- Pneumatic Compressed Air Systems (Process/Plant)
- Make Up Air (MAU) & Exhaust Ventilation
- Gas & Process water Piping



INDUSTRIAL NETWORK WIRING & ETHERNET



DATA

From design and diagnostics, to implementation and additions, Dubak Electrical provides the connection for all your data networking needs. We work with knowledgeable partners trained in the all data-related areas.

Dubak Electrical builds and maintains copper and fiber optic networks for voice, data, and video systems. Our staff of network designers can help resolve the most complicated network problems and design issues to keep your business up and running.

IBM:

- System 3X
- AS400
- Star Controllers
- Remote Controllers

Ethernet:

- NIC Cards
- Hubs/Routers
- 10/100 Switches

- 10/100 Switches
- Transceivers

Network Installation:

- Design, Retrofit,
- Support, New Installation

Data Services:

- Dedicated Data Lines
- ISDN WAN's
- Frame Relay

Testing & Trouble-Shooting Installation Design & Consulting:

- Structured Cabling Systems
- Outside Plant construction
- Backbone/Riser
- Disaster Recovery Campus

INSTALLATION CABLING / SERVICES & SOLUTIONS:

Data Cabling:

- Shielded & Unshielded Twisted Pair
- Category 3, 5, 5e, 5E, & 6 Cable
- Patch Panel RJ45
- Kiosk
- Local Area Network (LAN)
- Stand Up Racks
- Wall and Rack Mount Cabinets
- Horizontals And Vertical Management
- Patch Cords
- Category Testing and Certification
- Project Management

Miscellaneous Services:

- Project Management
- CAD Drawings and Drafting

- Site Survey
- Grounding and Bonding
- EF&I Services
- Emergency Services
- Fiber and copper restoration

Construction Services:

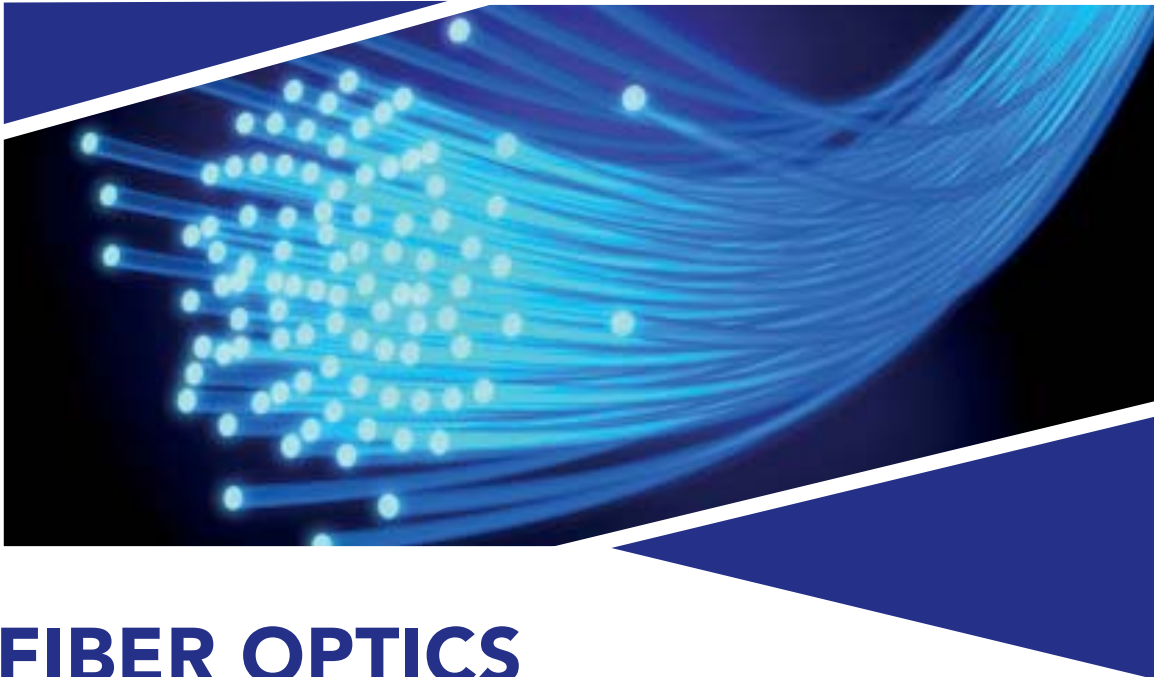
- Underground conduit construction
- Full scope design, construction, and maintenance
- Aerial cable and placement & pole setting
- Conduit rodding, cleaning, and cable pulling
- Fiber optic cable installation and splicing
- Plowed and trenched cable

- Manhole construction (including poured, rebuilds, precast, and CEV's)
- Directional boring, pipe pushing, and tunneling

Build Services:

- Voice/Data/Video cabling systems
- Infrastructure cabling
- Copper
- Fiber-optic
- Splicing
- Copper
- Fiber-optic
- Campus Environment
- Copper
- Fiber-optic

**Legrand • Corning • Siemon • General Cable • Hubbell • Leviton
Commscope • Belden • Berk-Tek • Panduit • Mohawk**



FIBER OPTICS

MINIMIZE EXPENSES BY UTILIZING FIBER OPTICS

The use of a Fiber Optic Network (FON) minimizes maintenance expenses because the Fiber Optic Network (FON) is constructed only of Fiber-Optic cabling and optical splitters and couplers. Signals are not affected by electrical noise. This makes Fiber-Optics the perfect partner for electrical transmission right-of-ways. Exempt from FCC-mandated sweeps, fiber reduces operation and maintenance costs for an outside plant. Fiber also drives much longer loops than copper and there is no ongoing plant tuning. Additionally, the Fiber Optic Network has an estimated Interior/Exterior, LAN, WAN, and plant life of more than 35 years. Even today, full-service broadband networks need to support bandwidth-intensive voice, video, and data applications. Whether for IP streaming video for residential consumers, Virtual Private Networking (VPN) for telecommuters, or point-to-point T1 services for businesses, only Fiber Optics can satisfy the wide-ranging needs of an entire community.

Fiber optic:

- Multimode Cable
- Single Mode Cable
- FDDI
- ST/SC/LC Connectors

Construction services:

- Underground conduit construction
- Full scope design, construction, and maintenance

- Aerial cable placement & pole setting
- Conduit rodding, cleaning, and cable pulling
- Fiber optic cable installation and splicing
- Plowed and trenched cable
- Manhole construction (including poured, rebuilds, pre-cast, and CEV's)
- Directional boring, pipe pushing, and tunneling

Installation cabling fiber:

- Installation - Cabling Fiber
- Premise Data Networks
- Fiber Optic, Multimode, SC, ST, Indoor
- Outdoor
- Multimedia Outlets
- Wall or Rack Mounted Cabinets





VOICE, AUDIO & VIDEO

VOICE:

- Voice Cabling for Commercial Telephone Systems
- Building Riser Design and Maintenance
- Heavy Pair Content Backbone Cabling
- ICE Cabling
- Key System
- PBX
- Work Station

- Pre-wiring
- Relocations
- Moves
- Fax
- Modem
- Project Management

AUDIO:

- Paging / Sound
- 18 AWG 2 Conductor (70V/25V)
- 2 Pair UTP (self-amplified)

VIDEO:

Closed Circuit Television System

- Time Lapse Recording
- Digital Recording Directly to Computer

Video Conferencing Systems

- Design & Installation

Projectors and Conferencing Systems

- Design & Installation

Coaxial Cable

- RG6 (Video)
- RG62 (3270/Arcnet)
- RG58 (Thinnet)
- RG59 (Video)



COLOR THERMOGRAPHY

DUBAK ELECTRICAL UTILIZES INFRARED IMAGING SYSTEMS WITH POWERFUL SOFTWARE TO PROVIDE A FAST AND EFFECTIVE MEANS OF IDENTIFYING POTENTIAL PROBLEMS IN ELECTRICAL AND MECHANICAL EQUIPMENT, REFRACTORY AND INSULATION MATERIALS. THIS INFORMATION IS COMPILED INTO A COMPREHENSIVE REPORT USING EASILY INTERPRETED TEXT WITH THE INFRARED IMAGE AND A VISIBLE LIGHT REFERENCE. PREVENTIVE OR CORRECTIVE REPAIRS CAN THEN BE SCHEDULED ON A PRIORITY BASIS.

INTRODUCTION TO INFRARED THERMOGRAPHY:

Infrared thermography is an effective means to identify excessive heat loss in systems or materials.

Every object radiates electromagnetic energy invisible to the human eye, but visible to specialized equipment. Thermal imaging radiometers can detect and measure infrared radiation, and produce a map – whether of colors or varying shades of gray – that show the surface temperatures of the object. The lighter colors or shades represent the warmest temperatures and the darker colors or shades the coolest. By analyzing the temperature signatures of equipment, problem areas are quickly identified and recorded along with all of the related temperature information.

COMMON APPLICATIONS:

Thermography was first utilized in the inspection of electrical equipment to locate high resistance connections or faulty components. It has also been proven in finding areas of reduced insulation in buildings and refractory materials, and even leaks in building roofs.

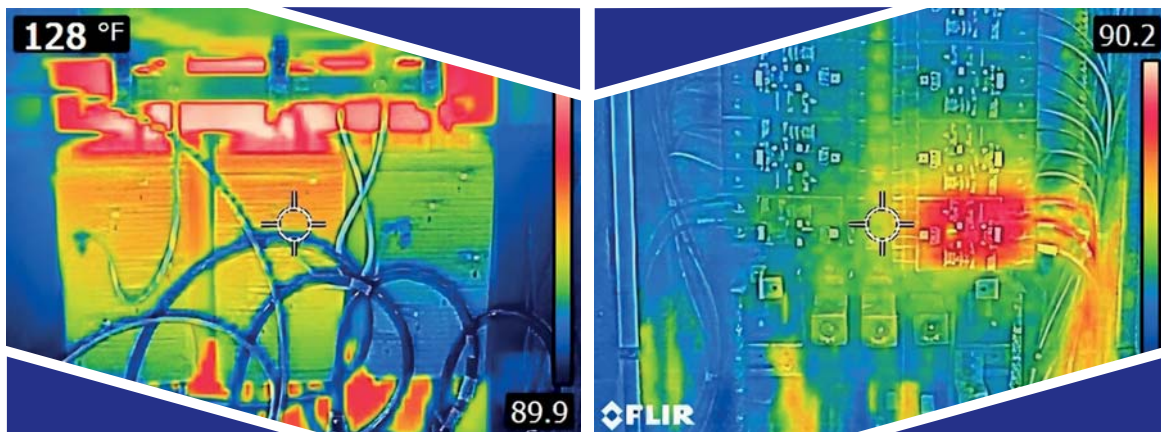
Inspection of rotating machinery is a way in which thermography is now being used more extensively. It has been found effective in identifying faults in bearings, couplings, and shorts in motor cores.

THERMOGRAPHY IS COST AND TIME EFFECTIVE:

- A non-contact, non-destructive means of testing
- Reduce downtime
- Virtually eliminate unnecessary work
- Reduce unnecessary material expenses
- Avoid catastrophic failures
- Direct maintenance to the root of the problem

OUR SERVICES INCLUDE:

- Refractory Applications:
- Annual Inspections
- Testing and Documentations
- Amprobing
- Insurance Inspections
- Process & Product Applications
- Energy Conservation



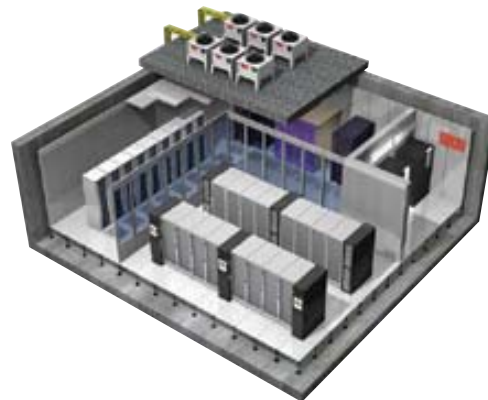


MISSION CRITICAL DATA CENTERS

DUBAK ELECTRICAL'S EXPERIENCE WITH DATA CENTERS GIVES US A TECHNOLOGICAL ADVANTAGE OVER OTHER CONTRACTORS. WE ARE ABLE TO APPLY THAT KNOWLEDGE TO AN EVER-INCREASING MARKET OF "HIGH TECH" CONSTRUCTION APPLICATIONS. AREAS SUCH AS DATA SUPPORT, UPS ROOMS, CONTROL ROOMS, CO-LOCATION FACILITIES, CLEAN ROOMS, AND MANY OTHERS HAVE SIMILAR REQUIREMENTS FOR SPECIALIZED APPLICATIONS.

MISSION CRITICAL DATA CENTER:

- Design Structural, Architectural, Electrical, and Mechanical
- Complete Project Contracting, Management & Coordination
- General Interior / Exterior Construction
- Electrical System Construction & Power Distribution
- Back-Up Generators
- Un-interruptible Power Systems
- Power Distribution
- HVACR Systems
- Turnkey MEP Capabilities
- Design Build
- Fast-Track Space to Market Delivery





MISSION CRITICAL MODULAR DATA CENTERS

DATA CENTER :

- Design Structural, Architectural, Electrical, and Mechanical
- Complete Project Contracting, Management & Coordination
- General Interior / Exterior Construction
- Electrical System Construction & Power Distribution
- Back-Up Generators
- Uninterruptible Power Supply (UPS)
- Data, Voice, and Fiber Optic System Design, Equipment, Installation, Cabling, and Maintenance
- Mechanical System Construction – Specialized Equipment Climate Control
- Raised Computer Room Access Flooring
- Fire Protection & Suppression Systems
- Fire Alarm, FM 200, CO₂, etc.
- Access Cards
- NEMA Rated Enclosures
- Indoor Frame Module
- Indoor Fully Enclosed Module
- Case Tray System
- Pre-Cable Cat 6
- Fiber Optic



BENEFITS OF MDC'S:

- Speed to Market Deployment
- Engineered to YOUR Application
- Single Source Modular Solution
- Redefining Within the Traditional Data Center
- Complete Cooling Battery Backup (UPS) and Power Distribution
- Scalable to Match Your Demand and Your Info Signature
- Combining Modular Data Center
- Efficient Foot Print





PREFABRICATION

DUBAK ELECTRICAL IS ABLE TO REDUCE CRAFT LABOR MANPOWER LEVELS ON-SITE RESULTING FROM PREFABRICATION. MANPOWER COSTS REDUCE AS A RESULT OF CONSISTENT WAGES (NON-TRAVELING WORKFORCE) PER-DIEM, OVERTIME REDUCTION, AND OTHER COMPENSATION.

Why Prefab?

There are several driving factors for prefabrication, all of them are to reduce the overall cost and time of project delivery while increasing the quality and controlling scope.

Schedule Reduction: Prefabrication of critical path items leads to schedule reductions. Schedule management of critical path components such as MEP systems increases the certainty of outcome. PREFAB will reduce TIME & SCHEDULE and eliminate days off of your project schedule.

Risk Mitigation: Critical path components are some of the most complex pieces of the building. Simplifying the complex through prefabrication mitigates risk in safety by reducing overhead work and site congestion.

Superior Quality Control: Breaking the most complex components of the project into prefabricated pieces requires intensive coordination and enhanced virtual design and construction processes. Designers and the builders must work through a level of detail not found in most construction documents. This process ensures a high level of quality that is consistent throughout the entire project.





DESIGN



ASSEMBLY



DELIVERY



INSTALLATION

WHY PREFAB?

PREFABRICATION IS THE DESIGN, ASSEMBLY, DELIVERY & INSTALLATION OF CRITICAL PATH ITEMS LEADING TO SCHEDULE REDUCTION, RISK MITIGATION, AND SUPERIOR QUALITY OF PRODUCTS BUILT IN A CONTROLLED ENVIRONMENT.



UNDERGROUND & DUCT BANK | PREFAB CONDUIT | CABLE TRAY | TEMPORARY LIGHTING
ELECTRICAL DISTRIBUTION TEMP POWER | MISC. ASSEMBLIES | METALS & STAINLESS
SANITARY STRUT & SUPPORTS | PUZZLE CONDUIT | JUNCTION BOX | STANDS & SUPPORTS
PREFAB LIGHTING | TRAPEZE | COATED ROD | TEMP POWER DISTRIBUTION
WIRE BUNDLING / CABLE ASSEMBLY | PROJECT KITTING

There are several factors for prefabrication, all of them are to reduce the overall cost and time of project delivery while increasing the quality and controlling scope.



Schedule Reduction:

Prefabrication of critical path items leads to schedule reduction. Schedule management of critical path components such as MEP systems increases the certainty of outcome. PREFAB will reduce TIME & SCHEDULE and eliminate days off of your schedule.



Risk Management:

Critical path components are some of the most complex pieces of the building. Simplifying the complex through prefabrication mitigates risk in safety by reducing overhead work and site congestion.



Superior Quality Products:

Critical path components are some of the most complex pieces of the building. Simplifying the complex through prefabrication mitigates risk in safety by reducing overhead work and site congestion.

MODULAR

DUBAK ELECTRICAL GROUP'S MODULAR DIVISION (DUMOD) CHANGES THE ECONOMICS OF MISSION-CRITICAL DATA CENTERS, GIVING BUSINESSES AN EASIER, QUICKER AND MORE COST EFFECTIVE WAY TO BUILD AND SCALE DATA CENTERS, ELECTRICAL EQUIPMENT CENTERS AND ELECTRICAL DISTRIBUTION CENTERS.



A DuMod modular data center system is a portable method of deploying data center capacity. A modular data center can be sited anywhere data capacity is needed. Modular data center systems consist of purpose-engineered modules and components to offer scalable data center capacity with multiple power and cooling options.

DuMod modular systems can be configured into nearly any kind of enclosure. All systems are pre-engineered, designed and prefabricated off-site resulting in lower/more predictable costs, shorter delivery time, improved quality, reduced risk and less waste than traditional construction. Using pre-engineered systems, you can build anything that can be built with conventional construction materials, while minimizing the demands that frequently keep a new construction project grounded.

- NEMA Rated Enclosures
- Indoor Frame Module
- Indoor Fully Enclosed Module

BENEFITS:

- Speed to Market Deployment
- Engineered to YOUR Application
- Single Source Modular Solution
- Efficient Foot Print

DuMö^öd

DuMö^öd is a registered trademark and brand of



Dubak Electrical Group™

MODULAR DONE RIGHT

EEC | **MDC** | **EDC**
ELECTRICAL EQUIPMENT CENTERS | MODULAR DATA CENTERS | ELECTRICAL DISTRIBUTION CENTERS





PROCESS SKID ELECTRICAL & INSTRUMENTATION

From simple pump skids to complex piping modules complete with instruments and controls. Complete Electrical system capability in accordance with the National Electric Code (NEC) including hazardous locations. Exceptional pneumatic and process tubing work as well as hydrostatic and pneumatic pressure testing including complete functional testing of system controls.

The efficient design of DUBAK's Process Skid Systems can complement any installation or integration type. Our process modules and stainless steel process systems are easy to use and can reduce installation time because of their modular installation, allowing you to get back to what you do best — production. Stay on track; be on time with turnkey Electrical & Instrumentation installations.

**INTEGRATION – CONSULTATION, DESIGN,
FABRICATION, INSTALLATION AND STARTUP
TO ENSURE SKID PROPERLY
INTEGRATES WITH EXISTING SYSTEM**





ARC FLASH HAZARD ANALYSIS

TRACING ELECTRICAL RISKS, DIMINISHING ARC-FLASH RISKS THROUGH AN ANALYSIS, AND CREATING A SAFE WORKPLACE CULTURE SHOULD NOT BE A SPUR-OF-THE-MOMENT THING. AT DUBAK ELECTRICAL, OUR ARC FLASH HAZARD ANALYSIS WORK TOGETHER TO CREATE A MUCH SAFER WORK ENVIRONMENT BY LOCATING, ANALYZING AND IDENTIFYING ELECTRICAL ISSUES WHICH BRINGS OUR CLIENTS INTO OSHA COMPLIANCE.

COMMON APPLICATIONS:

The Arc Flash hazard analysis methodology used by Dubak Electrical Group conforms to IEEE 1584.1-2013 and NFPA 70E. The information gathered by Dubak's Arc Flash hazard analysis is obtained via data collection by certified field technicians and entered into our SKM database. This information is then used to deliver you a detailed proposal and action plan, including different operating conditions (called scenarios) of the electrical distribution systems, to mitigate potential arc flash hazards by obtaining the lowest AFIE (Arc Flash Incident Energy) rating possible.

COMMON APPLICATIONS:

At Dubak Electrical, SAFETY IS OUR MOST IMPORTANT MATTER, period. By creating a safer and more reliable workplace through our electrical safety training program and continuous dialogue with our employees and clients, lowers our work related injuries and near miss incidents.





Dubak U CRAFT UNIVERSITY

INDUSTRIAL ELECTRICAL TRADE EDUCATION & CERTIFICATION

With more than 200 years combined experience in the electrical field, Dubak U instructors are subject matter experts, leaders in the industry, and are committed to educating new apprentices. Our two primary instructors are NCCER Certified Industrial Electrical Journeyman. This is the gold standard from NCCER and is only obtained by passing both the Knowledge Verification and Performance Verification.

WHAT IS DUBAK U?

Dubak U combines industry leading craft curriculum and focused hands-on instruction to create an apprenticeship program unlike any other. Where other programs fall short, Dubak U excels at giving apprentices the training, the certification, and leadership to succeed in a career as an industrial electrician. A rigorous four-year program through our NCCER Accredited Training Sponsor equips individuals with the knowledge and skill to perform installations to the best-in-class standard demanded by the industry. Our NCCER Accredited Assessment Center allows us to verify journey-level knowledge and skill for those completing the apprenticeship or for experienced craft professionals. No trade school in the area offers the opportunity Dubak U provides or matches our quality, commitment, and excellence.

PROGRAM

Each year of our four-year apprenticeship program consists of a minimum of 144 hours classroom and hands-on training paired with at least 2000 hours of on-the-job training. Apprentices learn in and out of the classroom and should be prepared to balance a full-time job with the classroom commitment. The most successful apprentices are on time, willing to work overtime when it is offered, passionate, and dedicate time to learn the NCCER material and maintain an 80% or better classroom average. As a leading industrial electrical contractor, Dubak Electrical Group sets the highest standards for quality craftsmanship, leadership, and safety. Dubak U is committed to meeting those standards by providing quality education, interactive hands-on workshops, and equipping today's apprentices to be the leaders of the future.



www.dubakuniversity.com



CLIENT PARTNERING PROGRAM PRODUCES COST-EFFECTIVE AND INNOVATIVE SOLUTION, FOR LONG TERM FACILITY OPERATION, WITH OUR TOTAL DESIGN, INSTALLATION AND MAINTENANCE CAPABILITIES.

DUBAK'S CLIENT PARTNERING PROGRAM

Dubak Electrical's Client Partnering Program is a comprehensive system led by Dubak Senior Management which implements a long term plan to structure a single-source design, maintenance, and capital project team. Dubak Electrical's Client Partnering Program focuses on the operation and development of a mutually beneficial program between the client and Dubak, establishing a solid foundation of: contractor performance metrics, plant performance metrics, streamlining production, automating systems, SCADA development, retaining workforce, workforce development / craft training, continuous improvement, & safety improvement.

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