

Two men are standing in a large industrial facility, possibly a factory or power plant. They are both looking at a document held by one of the men. The man on the left is wearing a light blue polo shirt and dark cargo pants. The man on the right is wearing a light blue button-down shirt, a tie, and dark trousers. The background shows complex industrial machinery, pipes, and overhead lighting.

Electrical Distribution Services

Life cycle solutions to help keep your facility safe, reliable, productive, and efficient.

schneider-electric.us/electricaldistributionservices



A trusted partner of Schneider Electric

Life Is On

Schneider
Electric


GraybaR

For over 50 years, Schneider Electric has been trusted by top companies.

Automotive

- Chrysler®
- Honda of America
- Ford Motor Company
- General Motor Corp.

Chemical

- Pfizer Inc.
- INVISTA

Commercial

- Disney® Corp.
- The Home Depot®
- McDonald's Corp.
- UPS Corp.
- Hyatt Regency

Communications

- AT&T
- GTE
- Pacific Bell

Data Centers

- Lowe's
- Mayo Clinic
- M&T Bank

Educational

- Duke University®
- Harvard University
- Penn State University
- Texas A&M
- Vanderbilt University

Food and Beverage

- Coca-Cola Company
- General Foods
- Kraft Foods
- Nestle®
- Nabisco Foods
- Pepsi™ Cola

Government

- FAA
- Ft. Campbell
- IRS
- Pentagon
- U.S. Postal Service

Healthcare

- VA Hospital (various facilities)
- Massachusetts General Hospital
- Barnes Jewish Hospital

Manufacturing

- Kimberly Clark Corp.
- Dell™ Computer Corp.
- IBM® Corp.
- 3M™ Company
- Intel® Corp.
- Boeing Aircraft

Oil and Gas

- Koch
- ExxonMobil™
- Shell
- BP
- Chevron

Pharmaceutical

- Johnson & Johnson
- AstraZeneca
- Merck
- GlaxoSmithKline

Utility

- Commonwealth Edison
- TVA
- Northern States Power
- Southern Indiana Gas and Electric

Water Treatment

- WWTP Columbus
- LTC WWTP (Ph2)
- Pelham WWTP Expansion
- Four Mile Creek WWTP

81%

Best in class for customer satisfaction with an 81% customer net promoter score.

“Communication was great on the front end and the techs were really diligent on the job site.”

- Perdue Farms

“I’ve been very satisfied with their quality of work and equipment for many years. The knowledge of the techs as well.”

- Bristol-Myers Squibb Company



Why are services vital for your installed base?

How can you cut costs and improve performance at the same time? When it comes to your electrical distribution infrastructure, the answer is straightforward — get professional expertise.

Schneider Electric™ Services enable you to achieve your goals. Whether you're preparing to install new equipment, looking to extend the life of an existing installation, or planning to decommission an outdated facility, we have the experience and the service specialists to support you.

Doing business in today's economic environment is challenging enough. Let us handle your electrical distribution installation for your peace of mind.

When it comes to your electrical distribution installation, we can help you:

- Increase productivity, reliability, and safety
- Mitigate risk and limit downtime
- Keep equipment up to date and extend its lifespan
- Cut costs and increase savings
- Improve your return on investment



Engineering services

Whether you are making plans for installing new equipment or optimizing your existing installation, you need a comprehensive assessment and a clear analysis of the results. Our engineering services combine in-depth analyses of the current state of your electrical system with expert advice on how to optimize technical performance, safety, and maintenance.

10k+

More than 10,000 power system assessments completed in the last 50 years.

Solutions for OSHA and NFPA 70E compliance

Schneider Electric is a recognized leader in promoting electrical workplace safety and helping companies comply with the requirements of NFPA 70E:

1. Develop and audit an electrical safe work practices policy.
2. Conduct an arc flash risk assessment to determine the present degree of arc flash hazards and apply equipment labeling.
3. Ensure adequate supplies of personal protective equipment (PPE) and proper tools.
4. Conduct regularly scheduled safety training and audits for all electrical workers.
5. Maintain all electrical distribution system components.

In addition to the NFPA 70E requirements, Schneider Electric recommends a crucial sixth step to optimize the safety and performance of the power system:

6. Follow strategies to mitigate and control arc flash hazards, which may include:
 - Overcurrent protective device coordination study
 - Upgrade switchgear with a virtual main relay
 - Infrared viewing windows
 - Remote racking system
 - Wireless temperature monitoring system

200+

Over 200 strategically located professional engineers collectively registered in every state to meet state licensing requirements.

Power system design and upgrades

Our design services extend from the transmission line to the motors and equipment in your facility. Projects can be customized from basic design consultation to feasibility studies to a complete turnkey solution. Our capabilities include:

- Substation solutions
- Switchgear modernization

50+

For over 50 years, our power system engineers have completed over 10,000 power system assessments, designs, and analyses.

Power system design and upgrades *(continued)*

- Control and protection system upgrades
- Generator backup design and construction
- Power factor correction and filter design
- High resistance grounding conversions

Power system assessment services

Our assessment services provide a roadmap to optimize future capital and operational expenditures. They are customized based on your need to reduce risk to your facility from: reliability issues, process disruptions, code violations, or outdated workplace safety requirements. Included in this category are:

- Power quality analysis
- Power system grounding evaluation
- Equipment condition evaluation, risk assessment, and contingency planning

Power system analytical studies

Analytical studies help ensure your electrical system operates as it was designed and intended. Each study includes a detailed report of findings along with corrective recommendations to help maximize the reliability and operational efficiency of your system. Our broad range of analyses includes:

- Protective device time-current coordination analysis
- Short circuit analysis
- Load flow analysis
- Harmonic analysis
- Motor starting analysis
- Switching transient modeling and analysis
- Reliability analysis
- Substation ground grid analysis
- Stability analysis



New installation services

Maximize your investment by optimizing your equipment's performance from the start.



Receive an extra 12-month warranty with the purchase of start-up and commissioning!

Start-up and commissioning

Precision, proven tools and procedures, expert knowledge and experience — that's what it takes to start an electrical distribution installation the right way. Without these, you increase the risk of start-up delays and premature equipment failure. Not only do we perform the standard electrical, mechanical, and visual equipment inspections, we also check the equipment and components to ensure they are set up and functioning correctly. Electrical testing is also performed to check insulation, current path, functionality, and sequencing to minimize costly downtime.

Spare parts

Having spare parts on hand minimizes downtime. Our services will evaluate your electric system, identify the equipment that is critical to your operations, and recommend specific spare parts. In addition, we offer shipping management solutions that will consolidate your spare parts into one shipment to your site.

Extended warranty

Protect your investment for years to come. In addition to our standard 18-month warranty, we offer long-term extended warranty coverage for all electrical distribution equipment — **including other manufacturers' equipment.**

Advantage Service Plans

Having an Advantage Service Plan in place helps mitigate risks and unexpected repair costs, and complies with NFPA 70E standards by having regular maintenance and testing performed on your equipment. Our scope of work includes:

- Inspections, cleaning, lubrication, and adjustments
- Overcurrent protective device testing, oil testing, and electrical testing

Engineering analysis

Engineering analyses help optimize performance and reliability and meet applicable requirements for short-circuit protection, overcurrent device coordination, and arc flash hazard identification.

- **A protective device time-current coordination analysis** evaluates an electrical system's protective devices, including relays, fuses, and circuit breakers, and the equipment to which they are applied.
- **A short circuit analysis** calculates the fault current levels throughout the power system. The interrupting capabilities of the devices being analyzed are compared with the available fault currents.
- **An arc flash analysis** estimates incident energy levels, identifies appropriate levels of PPE, and determines flash protection boundaries at specific points in an electrical distribution system.

Training services

Having well-trained employees is key to the long-term health of your electrical distribution equipment. However, keeping their knowledge current can be challenging. Our OSHA-authorized instructors are experienced engineers and technicians who have received extensive training on how to effectively adapt engineering codes, standards, and factory-approved documentation into a classroom setting and real-world application. We offer over 70 training courses, available regionally, on-site, or online, that include:

- **Safety training** for NFPA 70E including Arc Flash Training plus 10- and 30-hour OSHA Certification Courses.
- **Electrical distribution training** for medium- and low-voltage distribution equipment and distribution substation transformers.
- **Automation and control training** for variable frequency drives, programmable logic controllers (PLCs), human-machine interfaces (HMIs), and industrial communications.

Advantage Service Plans can be customized based upon your specific requirements, such as:

- One maintenance agreement can cover all equipment.
- Billing can be structured to prevent fluctuations to your maintenance and repair budget.
- Flexible payment options are available for annual and long-term maintenance needs.





Maintenance and testing services

Keeping your electrical distribution equipment performing optimally is a challenge. You need to adopt the right best practices and minimize downtime, while working with limited budgetary and maintenance resources. We can help.

66%

Having a preventive maintenance program in place can reduce the risk of unplanned downtime by as much as 66%.

Preventive maintenance and testing

To help ensure reliable power, periodic maintenance, cleaning, and lubrication of electrical equipment is required. Our qualified field service representatives provide comprehensive maintenance and testing services with a workscope that includes:

- Equipment inspection
- Overcurrent protective device testing
- Cleaning and lubrication
- Adjustments
- Oil testing
- Electrical testing, including insulation, current path, system function, and others

Predictive maintenance solutions

Predictive maintenance solutions detect early warning signs and help prevent downtime. Monitoring the condition of equipment provides trending data and alarming to help anticipate and plan maintenance activities.

- **Infrared windows**
Having infrared windows installed in existing equipment enables permanent access for inspection of electrical components without disturbing operations. More importantly, it removes the operator from contact with energized parts. Our infrared windows can be retrofit into ANY brand of equipment.
- **Wireless temperature monitoring system (WTMS)**
WTMS provides 24/7 temperature monitoring of critical connections within electrical distribution equipment, even areas not seen by infrared cameras. Sensors, installed inside equipment, transmit temperature readings through a receiver to software to be analyzed.
- **Partial discharge monitoring**
Partial discharge monitoring technology will detect and notify facility engineers of impending insulation breakdown. Monitoring sensors can be furnished either in new switchgear or field-installed during a planned outage. Sensors are wired to a monitoring unit, which can be tied into an existing SCADA system via open protocol.

Advantage Service Plans

Advantage Service Plans help you comply with NFPA 70E standards and mitigate risks by ensuring that regular maintenance is performed on your equipment:

- Power equipment
- Monitoring systems
- Automation and control equipment
- Hospital isolation panels
- Emergency management
- Facility management software

Additional maintenance and testing services

Schneider Electric Services also offers:

- Circuit breaker testing
- DC high-potential testing
- Grounding system testing
- Relay and metering calibration
- Rotating equipment
- Variable frequency drive and soft start repair
- UPS and battery maintenance



Modernization and upgrade solutions

Installing new electrical distribution equipment involves a major financial commitment, so it makes sense to get the best use out of your installed base. Aging, outdated equipment can be modernized to new technology, dramatically improving its performance and lifetime.

Switchgear modernization solutions

New design capabilities exist to modernize and extend the life of the active components of switchgear, i.e., circuit breakers, while leaving the existing switchgear structure intact.

- **Direct replacement:** Circuit breakers are designed to fit into the existing cubicle with little to no modification to the switchgear cell. Direct replacement solutions reduce downtime since there is minimal (if any) outage on the equipment bus.
 - Low voltage: A standard Masterpact™ cradle is installed into an adapter cradle to form one assembly, which is then installed into the switchgear cubicle. This cradle-in-cradle assembly locks into place and remains in the switchgear cell after the initial installation. The new Masterpact circuit breaker racks in and out of the adapter cradle. A new door is installed; however, cell interlocks, the racking mechanism, and the switchgear structure are not modified.
 - Medium voltage: Our Magnum™ medium-voltage replacement circuit breaker is designed to fit directly into the existing OEM switchgear. An adapter cradle is not utilized.
- **Retrofill solutions:** The existing switchgear cell and bus are modified to accept the new circuit breaker.
 - This switchgear upgrade option requires a longer bus outage, during which time the internal circuit breaker cell is modified to accept the new circuit breaker. A retrofill solution is often used in lieu of the direct replacement option for larger devices, such as main breakers and tie breakers.

Low-voltage motor control center upgrades

Motor control center structures and internal bus work typically have a long life. Their unit racking systems are simple and most likely, in good shape. So why replace the entire motor control center when problems arise? We offer direct replacement and retrofit options to upgrade low-voltage motor control centers.

- New direct replacement motor control center units are available for many common vintage- and current-style motor control centers. This approach minimizes outage time and reduces costs associated with having to match existing footprints for the removal and reinstallation of cables. Replacement units can be installed over an extended period, which provides an overall equipment upgrade on a limited maintenance budget.
- When a direct replacement unit is not available, we retrofit a genuine OEM bucket with all-new Square D™ by Schneider Electric™ components. The genuine OEM stab assembly is reconditioned to like-new condition and the bucket is painted white enamel. All work is performed by factory-trained personnel.

Additional services

Schneider Electric Services also offers these maintenance and testing services:

- Circuit breaker reconditioning
- Contactor conversions for motor
- Starting applications
- Network protectors
- Legacy product support and upgrades

Modernization solutions for any brand:

Eaton/Cutler-Hammer, General Electric, Westinghouse, ITE/ABB/BBC, Square D, Federal Pacific, Federal Pioneer, Allis Chalmers, and more!

For both the direct replacement and retrofill modernization solutions, new cubicle doors are provided to match the existing equipment and new circuit breaker face.



Square D replacement MCC unit installed in General Electric 7700 Series structure

New modernization selector application

Get 24/7 access to self-service support on modernization solutions.

Features include:

- Search by product name or reference
- Pictorial representation of existing products with replacement solutions
- Access product data sheets, technical documents, and FAQs
- Create a support request with email confirmation
- Online and offline capabilities



Android - Google Play



Apple QR Code



Custom solutions

Regardless of the application or location, our engineering, manufacturing, field service, and project management teams can evaluate your situation and propose a cost-effective solution that minimizes downtime or lead times.



On-demand and emergency services

The actions you take in the seconds after an unexpected power outage are critical to the full recovery of your business. Don't be left in the dark.

On-demand emergency response

Trust our emergency-trained technicians to restore your power systems safely and efficiently, so you can get back to business as soon as possible.

- Rapid response
- Project management and assessment
- 24-hour access to manufacturing plants
- Service for any brand, in any industry
- National network of service locations

Temporary generator connection

A temporary generator connection improves your electrical system's reliability and is recommended where one of the following applies:

- Local governing body requiring portable generator connection provisions in addition to the fixed mounted emergency generators per NEC® article 708.20(F)(6).
- The facility is designated as needing continued operation in the event of a widespread disaster and a temporary connection is acceptable to the governing entity.
- Long-term electrical disruption will jeopardize the business.

Emergency action plan 24/7

Having a detailed emergency recovery plan can help reduce the financial impact and havoc unplanned outages can cause. Components include:

- Having a current single-line drawing of the electrical distribution system
- Identifying which electrical equipment is critical to the electrical infrastructure
- Understanding which equipment must be replaced and which can be reconditioned if water damage has occurred



Minimize downtime and save money!

Customers with an Advantage Service Plan in place receive reduced pricing and priority response times.*

*Four-hour rapid response available in select areas.

Place glow-in-the-dark sticker in high-visibility areas.



Why choose Schneider Electric Services?

As part of Schneider Electric, the global specialist in energy management and automation, you can count on our experienced Electrical Distribution Services team to help **manage the life cycle of your equipment, no matter what brand it is.**

Our service representatives are qualified to work on ALL brands of equipment. In fact, over half of our work is on competitive brands!

Our professional engineers are strategically located throughout the U.S. and collectively registered in every state.

Our field service representatives are qualified, as defined by OSHA and NFPA 70E®.

We are committed to the well-being of our employees, contractors, and customers at all times, as evidenced by:

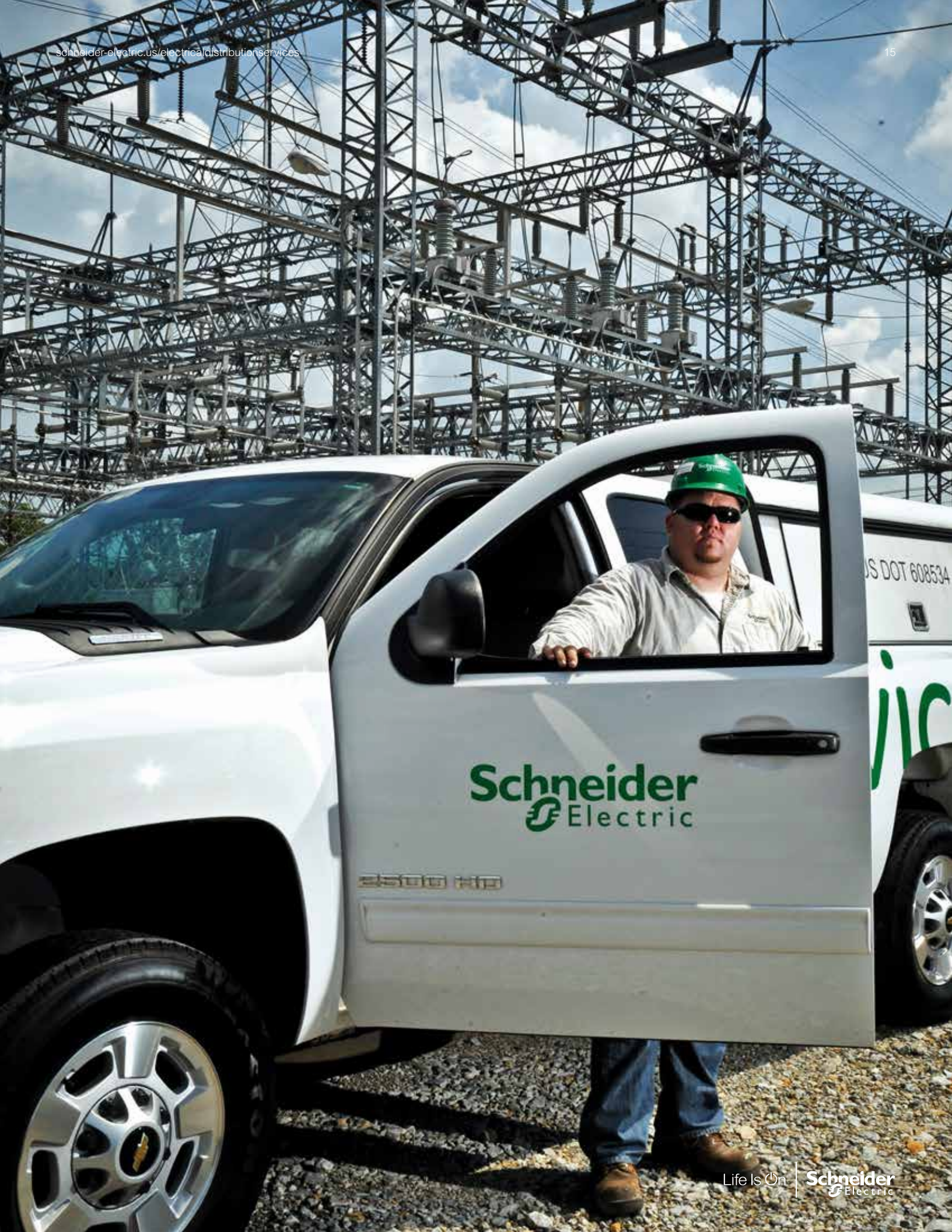
- Our 0.5 incident rate — 8x lower than the national average.
- Our 300+ Operational Safety awards by the National Safety Council over the past 2 years.
- Our North American Operating Division being 1 of 3 companies to simultaneously hold the Robert W. Campbell Award and the Green Cross Award for safety excellence.

Any brand. Any industry. Any time.

Need service across all your systems?

Schneider Electric has acquired industry-leading brands to deliver the best customer solutions and services across all systems.

- Square D™ in 1991
- APC™ in 2006
- Pelco™ in 2007
- Invensys™ (Foxboro™, Avantis™, Wonderware™, SimSci™, Triconex™) in 2014



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Find out more about how we can address your specific needs:

Visit schneider-electric.us/electricaldistributionservices

Schneider Electric USA
800 Federal Street
Andover, MA 01810
Phone: 978-794-0800

www.schneider-electric.com/us

Graybar
www.graybar.com
9097068482
DREW.SILVA@GRAYBAR.COM

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