

electroindustry

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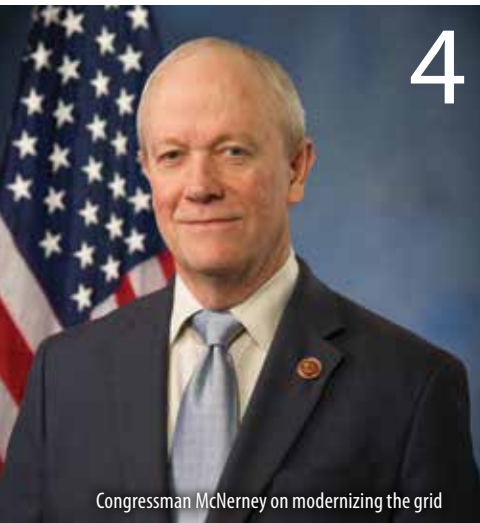
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electroindustry

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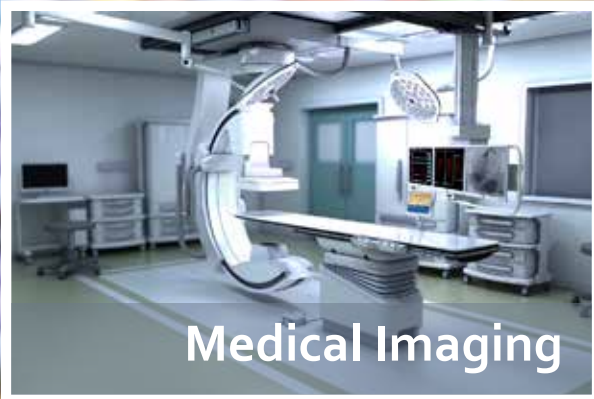
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On September 8, 2011, the Southwest went dark. Flights were grounded, traffic signals switched off, roads gridlocked, elevators trapped people, families fled outdoors to escape stifling indoor heat, and emergency 911 calls were rerouted as a patchwork fix. When critical generators failed, 66 nursing home residents were evacuated and seven hospital patients on life support were relocated.

All of this occurred because a technician accidentally disconnected a high-voltage transmission line that stretched from Arizona to California, resulting in voltage disruptions and equipment overloads that ultimately left almost seven million people—including all of San Diego, California, and Tijuana, Mexico—without power for a day.

Typically, power outages occur because of severe weather events. According to the North American Electric Reliability Council, the top ten events that most stressed the bulk power system in 2015 were all due to severe weather (windstorms, thunderstorms, cold snaps, and excessive rainfall). The same is true for nine out of ten of the top ten most stressful events since 2008 (the one exception, and the top event, was the 2011 Southwest blackout).

Events you would recognize by name—polar vortex, derecho, Sandy, Irene—all pushed the grid to extremes. However, there are many other causes of power outages: human error, equipment misoperation or malfunction, squirrels (yes, squirrels), and even physical vandalism, terrorism, and cyberattacks.

NEMA Members make the equipment that, when properly installed, operated, and maintained, increases the resilience of the grid, thereby improving overall reliability. Phasor measurement units give grid operators accurate and near-real-time measurements of grid performance; power transformers with built-in sensors detect anomalies and predict maintenance needs; automatic reclosers prevent short circuits from causing extended outages and automatically restore power; microgrids and energy storage systems supply power to critical facilities; and advanced metering infrastructure automatically notifies the utility of a power outage.

The challenge America faces is in finding ways to speed the adoption of these existing technologies to strengthen the grid before an outage occurs.

Rewriting the regulatory rules by which utilities are governed and aligning incentives to encourage specific performance outcomes, are some of the fastest ways to boost the reliability of the electric grid. Performance-based ratemaking and regulation provide a means for utilities to seek financial incentives when they meet or exceed reliability targets, or to pay penalties when they fail to perform. In the United Kingdom, for example, distribution utilities are paid a bonus or must pay a penalty for meeting or missing pre-determined standards for the number of customers interrupted and the duration of the outage.

We tend to not think about electricity until we don't have it. Power outages may be a mild inconvenience for some but are life-or-death situations for others, and outages result in billions of dollars of lost economic activity each year. While many of the threats to the electric grid cannot be avoided, we can and should take steps today to increase the resilience of the system by installing modern grid technologies to boost reliability and efficiency. The stakes are too high not to. ☎

Kevin J. Cosgriff
President and CEO

Act Now to Modernize the Grid

Over the past decade, we have seen a shift in our nation's energy and electricity landscape, presenting new technology and new consumer demand challenges. Congress has yet to address these new dynamics or help build a sustainable energy future.

America is now a leading producer of oil and natural gas. At the same time, there has been explosive growth of cleaner, lower carbon energy

sources. Solar energy now provides enough power for nearly six million homes, and wind turbines produce enough energy for nearly 18 million homes—together, that's about five percent of total electricity generated in the United States. This expansion translates to lower costs for producers and consumers and a reduction in greenhouse gases and other pollutants.

The electrical grid is evolving in both technology and operational functionality. As an energy engineer, I believe modernization starts with funding innovative research

and the development of new technologies that boost reliability and efficiency and promoting the development of better grid protections against cyber threats.

The Federal Energy Regulatory Commission, utilities, public utilities commissions, manufacturers, consumers, and others all embrace new ways of generating and consuming power. There has been tremendous progress and innovation to improve access, reduce costs, and increase electrical use efficiency. We now have high-voltage direct current technology, synchphasers, and smart inverters that have improved transmission responsiveness and efficiency.

While these technologies, as well as demand side innovations, have helped modernize the grid, we still have work before us. We need to continue pursuing modernization strategies to continue to improve grid resilience and efficiency while lowering cost and reducing carbon emissions to meet the energy needs of a twenty-first-century America.

This is one reason why I co-founded the bipartisan Grid Innovation Caucus with Rep. Renee Ellmers (R-NC). The caucus advocates for technological innovation, educates members of Congress, and promotes policies that enhance grid operations. It already has worked with its members to have provisions signed into law that establish a chain of command and the creation of a Strategic Transformer Reserve in the case of a natural disasters, cyber attacks, or terrorist attack on the grid to help utilities respond to large scale grid disruptions.

HR 8, which passed the House, contains steps to address our grid vulnerabilities, including the creation of a Department of Energy program to promote cyber-resilient technologies for the grid; smart grid labeling on ENERGY STAR® products, which help consumers make informed electricity use choices; and a statement on grid policy modernization for the future. Congressional action on a broad energy bill is long overdue. We should send a bipartisan bill—void of poison pills—to the president for his signature.

The electric grid requirements will continue to evolve with technology and consumer demand. The primary laws governing our current energy and electricity infrastructure—The Public Utility Regulatory Policies Act and the Federal Power Act—deserve new review to see how we can improve upon fundamental power statutes that have helped spur the development of low-carbon energy sources.

Our energy future requires far-sighted investments to ensure our security. A similar investment in the past, President Eisenhower's interstate highway system, helped to establish America's leadership in commerce and created much-needed jobs across the country. The same can occur today through grid modernization. ☺



Representative McNerney represents California's 9th Congressional District. He is a member of the House Committee on Energy and Commerce and co-founder of the bipartisan Congressional Grid Innovation Caucus.

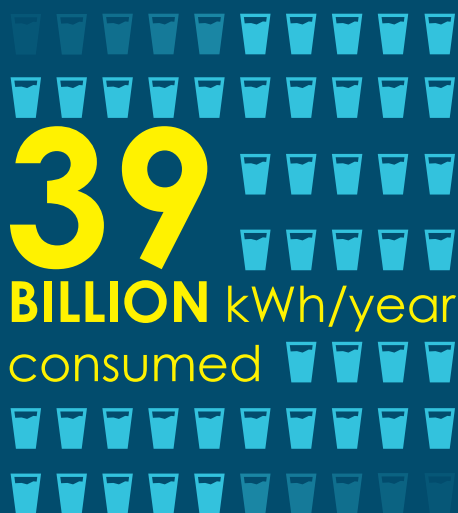
Energy Savings Possible for URBAN WATER UTILITIES

Significant energy and water savings in the water utility sector are possible and financially viable, according to a recent study commissioned by the National Electrical Manufacturers Association (NEMA). *Increasing Energy Efficiency in Urban Water Systems: Summary Report* provides results and analysis conducted by NEMA and GEI Consultants Inc.

NEMA worked with member experts as well as volunteers from the Hydraulic Institute and the International Association of Plumbing and Mechanical Officials, and sourced hundreds of existing reports and studies to analyze energy consumption, water throughput and consumption, and related energy-water metrics.



5  water UTILITIES ,000



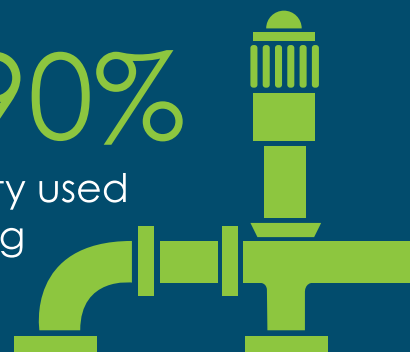
39 BILLION kWh/year consumed

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50-90%

of electricity used for pumping



potential savings through

- Site audits
- Pump evaluations
- System optimization assessments
- Staff training
- Federal grants

Stu Thorn Departs with Fair Winds and Following Seas



Acting on behalf of the NEMA Board of Governors, Chairwoman Maryrose Sylvester wished Stu Thorn “fair winds and following seas” in recognition of his retirement from Southwire and the NEMA Board of Governors during a recent board meeting. Mr. Thorn, who served as the CEO of Southwire Company, Inc., was elected to the NEMA board in 2001 and served as its chairman in 2009. Photo by Tracy Cullen.

Last Call for Award Nominations

NEMA is accepting nominations for this year’s Kite & Key, Illuminations, and Bernard H. Falk awards through September 9. Winners will be recognized at the association’s 90th Annual Membership Meeting.

The Kite & Key Award expresses the electroindustry’s appreciation for persons who have advanced its interests through steadfast and active association involvement. Nominations should include the individual’s accomplishments in 500 words or less. Email nominations to Vi Lilly at vi.lilly@nema.org.

The Illuminations Award highlights the work of a small-to-medium NEMA member company that has demonstrated success through entrepreneurial growth, application of advanced technology, or pioneered innovation. Additional factors include industry service, leadership in standards development process, and NEMA participation. Full criteria and the nomination form are listed on the members-only Business Innovation Council website.

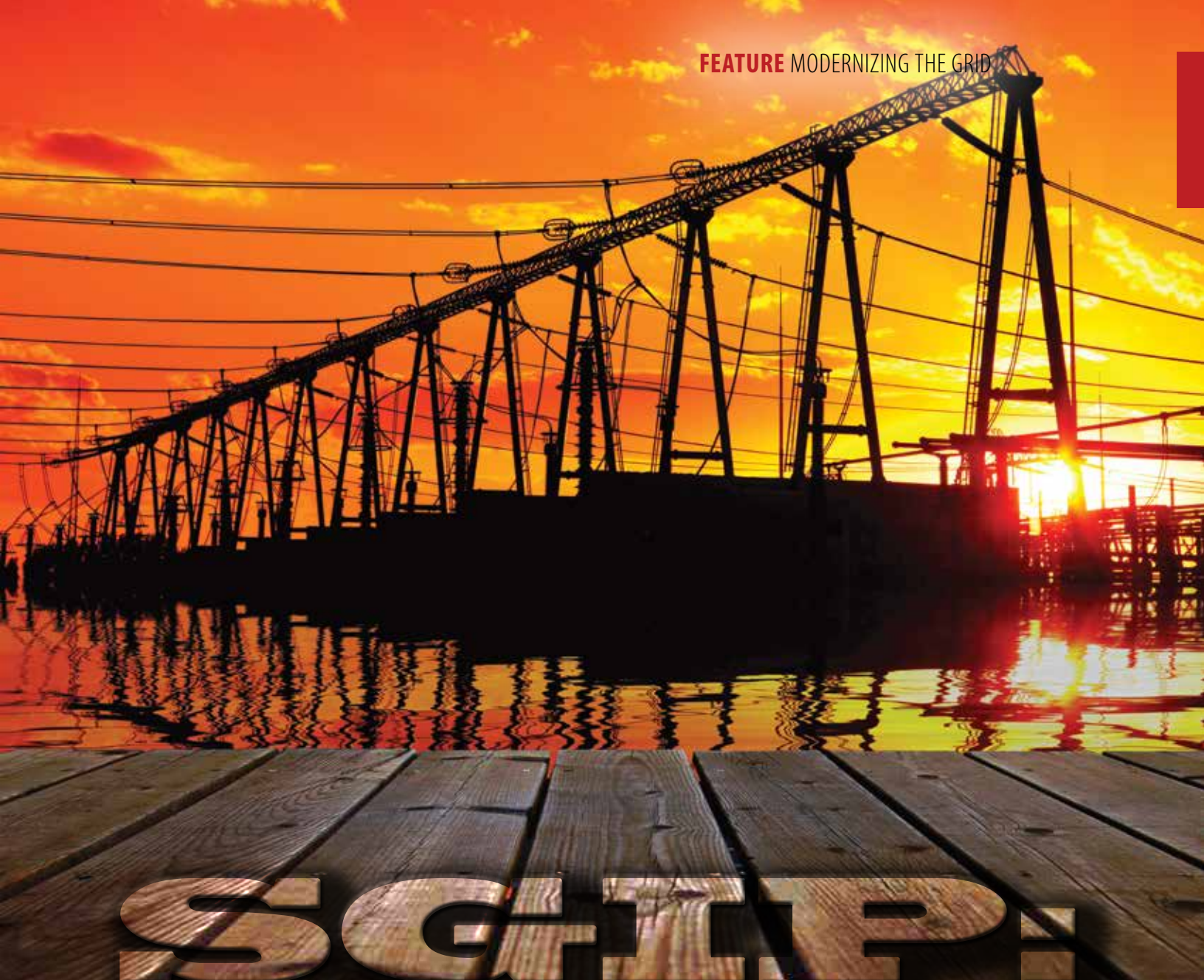
The Bernard H. Falk Award is NEMA’s highest honor. Award recipients are visionaries in corporate leadership, quality implementation, technology leadership, trade promotion, education, distribution, and government policy. Email nominations to Vi Lilly at vi.lilly@nema.org.

The NEMA awards program provides an excellent opportunity for individuals in the electroindustry to be honored for their valuable contributions before peers and industry leaders.

Join NEMA in honoring our award winners during the Annual Membership Meeting on November 16 and 17 at the Hilton Cleveland Downtown in Cleveland, Ohio. For more information, visit www.nema.org/amm16. ☎

Annual Membership Meeting November 16 & 17, 2016





Accelerate Grid Modernization

This decade has been marked by extreme weather incidents, and businesses across the nation have felt the impact when their power has gone out. While utility reliability on sunny days is very good across the nation, utilities are working on strategies to ensure that unanticipated weather disasters don't cause extended outages. Grid modernization programs, where more communication allows connected devices to send information that helps isolate and restore power, have been the key.

Our goal at the Smart Grid Interoperability Panel (SGIP)¹ is to work with industry (utilities, vendors, and consultants) and our national labs to remove complexity, drive efficiency through sharing of resources, and advance partnerships to accelerate grid modernization.

¹ The National Institute of Standards and Technology initiated the SGIP to fulfill its responsibility to coordinate standards development for the smart grid, under the Energy Independence and Security Act of 2007. SGIP is a public/private partnership that defines requirements for essential communication protocols and other common specifications and coordinates development of these standards by collaborating organizations.

Sharon Allan,
President and CEO,
SGIP

Ms. Allan has held a variety of executive roles in the industry for the past 30 years.

Embracing the Energy IoT

The SGIP has been working with utilities and vendors on the EnergyIoT™ Priority Action Plan², known as OpenFMB™, which stands for Open Field Message Bus, a reference architecture and framework for using IoT technologies. Our initial focus is on integrating microgrids, as they have the ability to continue to provide power in the event of an incident that takes out a piece of the normal utility power network.

OpenFMB for distributed intelligence leverages existing standards to federate data between field devices and harmonize them with centralized distribution management systems. OpenFMB enables interoperability by using a message bus to facilitate communication between many devices (e.g., solar photovoltaics, batteries, reclosers, switches, and microgrid optimizers).

Why is this important? In the case of power loss on a particular section of a feeder, the OpenFMB

OpenFMB architecture and framework enables a microgrid to disconnect from the normal power feeder and run an operation without interruption.

architecture and framework enables a microgrid to disconnect from the normal power feeder and run an operation without interruption. When power is restored, this same architecture allows the microgrid to reconnect with the power grid without disruption. It is this architecture that will help

facilitate smooth transitions.

Later this year we will launch an SGIP Online OpenFMB community that will have documentation and reference material, as well as actual OpenFMB code that can be downloaded, installed, and configured so that developers can write applications that utilities and third parties can test.

Working Group Unifies Stakeholders

Grid modernization isn't just about installing new hardware or software; rather, it is about installing systems that impact not only the way utilities conduct their business but also how their field force personnel service items in the field.

The change management and business process aspects of a program are equally significant to the system components. SGIP has been working with many of

the largest investor-owned utilities and municipalities to map out the effects of distributed energy resources (DER). The grid management working group brings together utility personnel from operations, business and strategy, and IT to generate these requirements.

The intended output is requirements that are needed in systems to address changes desired to manage electricity safely and reliably, as a result of the increased penetration of DER. The outcome is reduced risk in sourcing. This utility-hosted working group meets monthly and focuses on an agreed-upon topic. Later this year, the group intends to take its combined thinking and hold a meeting with the broader industry stakeholders to seek industry input and vet the requirements the group has identified. Ultimately, the information will be used for sourcing, and the collaboration aims to reduce risks by vetting multiple inputs.

To Go Green, Go Orange

We recognize that there are a number of distributed generation options coming to market. This is driven in part by the desire to offer new resiliency options, as well as the “pull” from customers for their own generation. On the regulatory front,

- California has a state mandate to reach a 50 percent renewable energy mix by 2030;
- New York plans to get 50 percent of its electricity from renewables by 2030;
- Hawaii plans to get 100 percent of its electricity from renewables by 2045; and
- Vermont plans to get 90 percent of its electricity from renewables by 2050.

SGIP is leading the stakeholder engagement and requirements for the Orange ButtonSM initiative, which aims to simplify and standardize solar data so that state and local governments, customers, utilities, financiers, solar companies, entrepreneurs, and other stakeholders can exchange quality data.

Orange Button is part of the U.S. Department of Energy (DOE) SunShot Initiative. SGIP is one of four organizations selected by the DOE to lead the Orange Button initiative, which will streamline the way the solar industry establishes and manages data. In order to boost solar bankability, the four organizations—SGIP, SunSpec Alliance, kWh Analytics, and the National Renewable Energy Laboratory—will work together to tackle the challenge of creating a widely adoptable, unified data standard for the solar industry.

² The EnergyIoT (Enabling and Accelerating Grid Modernization through the Internet of Things) strategy advances interoperability by leveraging existing processes and standards and applying common, secure Industrial IoT technologies to create a fabric that is protected, reliable, resilient, and flexible.



ORANGE BUTTON INITIATIVE

Because access to high-quality data impacts more than half the total price of a residential photovoltaic system, a robust data infrastructure for the solar industry is needed to enable rapid and seamless data exchanges between producers and consumers of solar data. By creating solar data standards, open marketplaces, and tools for accessing data by the private sector, Orange

Button aims to reduce transaction inefficiencies and improve market transparency in a self-sustaining manner.

SGIP kicked off the Orange Button program in July 2016 and already has more than 310 companies registered to participate. The goal is to drive solar to \$.06 cents/kWh.

On a wider scale, through various project-focused activities, SGIP is collaborating with industry to drive and accelerate grid modernization programs.

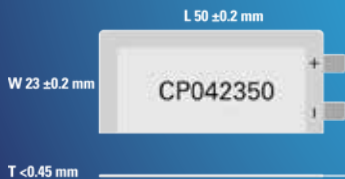
Transmission and Distribution Standards

NEMA publishes more than 50 standards and white papers related to transmission and distribution.

See "related standards" at www.nema.org/utility-products.

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Powering Microgrids for the 21st-Century Electrical System

Steve Griffith,
PMP, Industry
Director, NEMA

A new NEMA report, *Powering Microgrids for the 21st-Century Electrical System*, introduces the concept of microgrids as an integral component of the power delivery system of the 21st century.

This newer understanding contrasts with the earlier, more limited view of microgrids as islanded systems of generation and load, valued mostly for their ability to disconnect from the grid and serve individual customer facilities during outages. Microgrids are now seen as part of distribution system operations, interacting with the distribution grid through advanced control and distribution management systems. Microgrids will play a major role in grid modernization in an evolving regulatory framework.

This report first presents the structure of the electric power grid and explains the evolution of the distribution grid from a passive to an active one. This change is the result of the deployment of distributed generation—in part based on renewable resources, including solar and wind power, and electrical storage devices, known as distributed energy resources (DER)—and the implementation of portions of the smart grid agenda. These enable the implementation of distribution automation concepts and advanced controls at the end-user premises, including smart appliances and demand response.

The presence of DER and intelligent control allow for the aggregation of DER into virtual power plants and, when these are used to directly feed loads, into microgrids. Microgrids can therefore be seen as the building block for a new approach to configuring modern distribution systems.

Microgrids present a number of advantages associated with the presence of DER in serving loads, including greater reliability, higher power quality, and increased autonomy with respect to the main grid, making them more resilient in extreme weather conditions. Their deployment is made possible by the availability of newer equipment, enabling the implementation of intelligent generation, storage, and loads managed by the microgrid controller. These provide added flexibility in meeting energy delivery requirements.

There are many possible configurations of microgrids for deployment in residential, community, commercial, and industrial environments that use a combination of available intelligent equipment and control devices. Given the many identifiable benefits of microgrids, the market opportunities have been steadily growing, particularly in the United States. This report discusses the business case for microgrids and provides general information related to the cost of components and systems.

There are many technological advances that will facilitate the deployment of microgrids. In particular, developments are occurring in power conversion systems, rotating and static converters (particularly smart inverters), energy storage devices, advanced control systems, and the supporting sensors and communication infrastructure.

The standardization efforts in DER and microgrids are discussed in this report, and the need to accelerate this effort is emphasized. The availability of standards will greatly simplify the implementation of microgrids and lead to reductions in the cost of equipment and controllers. In addition, the regulatory framework needs to evolve to allow microgrids to play a larger role in the distribution grid operation and contribute to the grid modernization efforts.

Finally, this report ventures to articulate a vision for the future of microgrids, based on the assumption that the technology and the regulatory framework continue to evolve, and offer a favorable context for their accelerated deployment.

NEMA MGRD 1-2016 *Powering Microgrids for the 21st-Century Electrical System* is available at no cost at www.nema.org/powering-microgrids.



BULLETPROOFING the Grid

Recent events and developing threats remind us that as essential as the grid is to national and economic security—and our very way of life—it is and always has been vulnerable.

The 2013 rifle attack on a California substation that damaged 17 transformers and six circuit breakers, causing 52,000 gallons of oil to be spilled and \$15.4 million in estimated restoration costs, puts a fine point on the 21st-century threat of criminals or terrorists attempting to disable the grid using high-powered firearms.

Standard approaches are making way for new technologies. Fencing is certainly insufficient in the face of these new threats. Solid walls have drawbacks: they only go so high, they shield would-be saboteurs from being noticed from the outside, and they can be cost-ineffective if designed to encapsulate the entire substation when protection of large power transformers is really the priority.

Advanced ballistic protection is attractive to utilities seeking to protect their most critical equipment and to comply with new directives like North American Reliability Corporation CIP-014-1, which requires transmission owners and operators to address threats and vulnerabilities to the physical security of bulk power system facilities.

While armor plating would prevent penetration of the transformer tank, advanced ballistic protection also reduces spalling after the bullet's impact, limiting collateral damage to transformer components or nearby equipment. This technology absorbs the kinetic energy of bullets and meets the level 10 rating of UL-752 *Standard for Safety Bullet-Resisting Equipment*. This protects the transformer from many of the most powerful firearms available.

This solution does not require changing the customer's standard design or the dimensions of a normal transformer. With full access to the unit, maintenance and replacement can be done without additional measures. There is no visual difference between standard transformers and hardened

transformers. The look and feel of a normal transformer avoids any additional attention from possible perpetrators.

New sensing systems can detect ballistic impact on transformers. These systems send out warnings to alert first responders and activate systems to limit potential damage from ballistic damage to transformer accessories contained outside the main tank.

Due to the long lead time in producing custom-designed transformers, much of the early focus is on transformers. However, this technology is also suitable for protection of switchgear, circuit breakers, and capacitors, as well as other important substation equipment.

Industry is responding to the changing threat profile with new technologies. Properly applied, these technologies can match the level of protection with the criticality of the asset. This allows power producers and utilities to move away from a one-size-fits-all approach, because not all assets are created equal.

Petter Fiskerud,
Program Manager,
Power Transformer
Resiliency, ABB Inc.

Mr. Fiskerud develops effective processes supporting assessment, hardening, monitoring, repairing, and replacing power transformers to improve resiliency against natural or manmade events.



There is no visual difference between standard transformers and those with advanced ballistic protection.



PERFORMANCE
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ELECTRICITY
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Offers Peerless Power System Performance

Ryan Franks,
Power Systems
and Infrastructure
Specialist, U.S.
Green Building
Council

Mr. Franks
develops technical
and business
solutions for
the PEER rating
system.

Inspired by the 2003 blackout in New York City and concerned about the reliability of the nation's power system, former Motorola CEO Bob Galvin started the Galvin Electricity Initiative. Subsequently, he teamed up with Kurt Yeager, former president and CEO of Electric Power Research Institute (EPRI), to collaborate on the establishment of the Performance Excellence in Electricity Renewal (PEER).

After years of refinement, PEER went looking for an organization that could bring it to the forefront of public interest. In 2014, the Green Business Certification Inc. (GBCI) officially took over management of the PEER rating system.

PEER helps industry stakeholders dramatically improve power system performance by providing operators with a framework for continual improvement and performance assessment. Modeled after the U.S. Green Building Council's LEED (Leadership in Energy and Environmental Design) program for buildings,

PEER provides energy professionals with a guide for how to define, specify, and assess sustainable power to buildings. It is the nation's first comprehensive, consumer-centric, outcome-driven system for evaluating power system performance.

Developing criteria that address such a wide range of customer concerns, design requirements, and performance outcomes is inherently complex. To make this program easier to navigate, PEER credits are grouped into four categories: reliability and resiliency, energy efficiency and environment, operational effectiveness, and customer contribution.

Each category includes a set of prerequisites and credits. PEER criteria reward implementation of industry best practices and encourage the adoption of new, innovative strategies.



Arresters Section Promotes Purchasing Guides

The NEMA Arresters Section published six guides and accompanying videos on surge arresters. These include four guides on purchasing good quality arresters, an instructional document on protecting distribution lines from lightning, and a document on the uses of transmission line arresters.

The rating system uses five criteria types to measure performance:

- Performance outcome: quantifiable performance that can be compared to an industry benchmark or goal
- Demonstrated capability: measureable capability that supports key customer outcomes and efficient, safe, and reliable grid operation
- Performance transparency: measurement and aggregation of data for reporting, benchmarking, and trending
- Standard process: established process that produces specific efficiency, reliability, and safety outcomes
- Design consideration: proven strategy or technology for more efficient, safe, and reliable grid operation

PEER provides a valuable framework that can be used to assess new designs and developments, long-term improvement plans, and existing project performance. The projects may be categorized in the following ways:

- City: public projects with a large variety of customers
- Campus: privately owned or operated projects that have few customers but include distribution to multiple buildings and loads and are increasingly referred to as microgrids
- Supply: privately owned or operated projects that supply locally generated power to downstream customers or loads and do not have control over the distribution system or the customer

PEER helps electricity leaders, professionals, and operators

- reduce energy costs and cut economic losses caused by supply contract inefficiencies, poor energy reliability, poor power quality, and energy inefficiency;
- define key performance metrics, benchmark to industry standards, and verify measureable outcomes;
- quantify the value produced to date, identify sources of customer value, and make the case for investment by revealing waste and performance gaps;
- rigorously assess projects based on a comprehensive, balanced scorecard of sustainable performance criteria;
- demonstrate competitive advantage and comparative differentiation;
- build a comprehensive, continual improvement process based on industry best practices to maximize returns and minimize risks;
- build trust, credibility, and customer satisfaction; and
- establish a common language for stakeholders by facilitating education and collaboration.

To register your project or become a PEER partner, visit peer.gbci.org.

According to NEMA Program Manager Gary MacFadden, the topics of these guides were chosen to educate utility buyers and engineers on the advantages of thoroughly tested and well-manufactured products.

“In today’s global market, there are a far greater number of arrester options, making the best choice more difficult to determine,” he said. “NEMA member products are manufactured to meet high-quality standards to ensure reliable performance in the field.”

The documents and videos may be downloaded for free at www.nemaarresters.org/understanding-arresters:

- What to Look for in a Good Quality Arrester
- What to Look for in a Good Quality Disk
- What to Look for in a Good Quality Supplier
- Understanding the Arrester Datasheet
- The Lightning-Proof Distribution Line
- The Many Uses of Transmission Line Arresters

Christine Coogle, Editor and Social Media Manager, NEMA



NEMA Proposes Steps to Update the Electric Grid

Kyle Pitsor,
Vice President,
Government
Relations, NEMA

In written comments on the second installation of the Quadrennial Energy Review (QER), NEMA recommended concrete steps the federal government can and should take to update the U.S. electric system from transmission and distribution to end use.

The QER was launched to stimulate collaborative discussions between government and stakeholders, with the goal of developing a comprehensive set of national energy policies. NEMA's comments emphasized the key role that adoption of modern energy technologies should play.

“The products manufactured by NEMA members and used by electric utilities and other end users make the U.S. electric system more efficient, reliable, and secure,” said NEMA President and CEO Kevin J. Cosgriff. “Speeding the adoption of modern electrical products and systems—including distribution automation equipment, energy storage systems, smart meters, large power transformers, and more—is a top priority of NEMA. Our QER comments provide specific actions that the federal government should take to evolve the U.S. electric system for the rest of the twenty-first century.”

According to the U.S. Department of Energy, the QER enables the federal government to translate policy goals into a set of analytics-based, integrated actions over a four-year planning horizon.

The second installation of the QER builds on the first effort, covering the U.S. electric system from generation to end use. NEMA's comments address planning and siting transmission infrastructure, as well as tax provisions that impact various modern electrical products and systems.

NEMA also commented on the treatment of distributed energy resources in electricity markets, physical and cybersecurity of the electric grid, energy efficiency in buildings and industrial processes, and the evolving utility business model.

NEMA's comments on the second installation of the QER can be found at www.nema.org/nema-comments-2016-qer.

Comments on the first installation of the QER focused on the transmission and distribution of energy. They can be found at www.nema.org/nema-qer-recommendations. ©

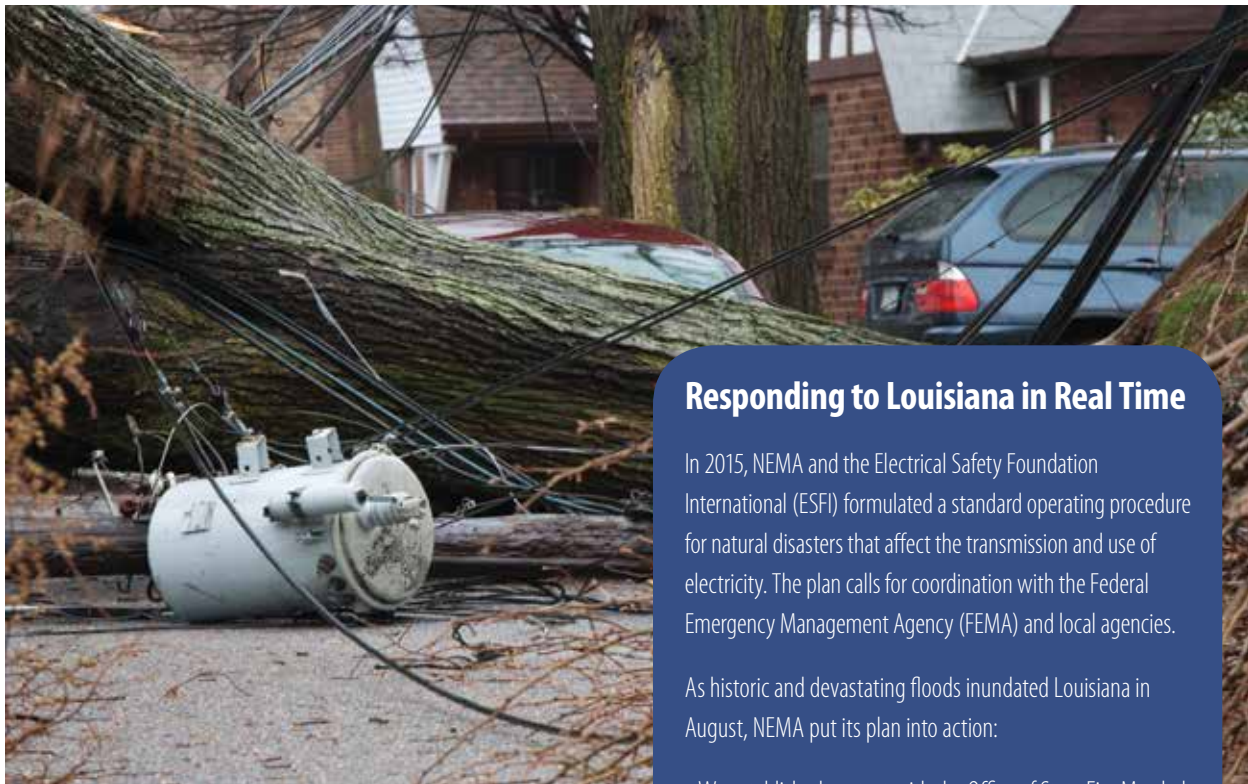
A Report from the NEMA Field Representatives

When Disaster Strikes

Communication Is First Step in Disaster Coordination

Coordinating with local officials is essential to NEMA's standard operating procedure for natural disasters.

The first step is to identify individuals and agencies that may need NEMA resources and guidance information before, during, and after a natural disaster. These same entities provide information to NEMA regarding the specific location and severity of the event.



Responding to Louisiana in Real Time

In 2015, NEMA and the Electrical Safety Foundation International (ESFI) formulated a standard operating procedure for natural disasters that affect the transmission and use of electricity. The plan calls for coordination with the Federal Emergency Management Agency (FEMA) and local agencies.

As historic and devastating floods inundated Louisiana in August, NEMA put its plan into action:

- We established contact with the Office of State Fire Marshal and the Uniform Construction Code Council. At their request, we sent additional copies of the NEMA white paper *Evaluating Water-Damaged Electrical Equipment*.
- State officials distributed NEMA documents, website links, and ESFI infographics to building departments in areas affected by the flooding.
- The Louisiana Building Officials Association's aid/damage assessment list included contact information for the NEMA southern field representative.
- We monitored FEMA reports and updates and forwarded vital information to contacts in lower Louisiana.
- We contacted member company facilities in the impacted regions to offer NEMA support and resources.

Learn more at www.nema.org/storm-disaster-recovery.

Bryan Holland, Southern Field Representative, NEMA

departments, electrical supply stores, and local trade associations. Follow-up services may include additional training and education.

Coordination with local officials is a year-round activity and the key to a successful natural disaster plan. ☺

**Bryan Holland,
Southern Field
Representative,
NEMA**

Local officials include:

- emergency management officials;
- building officials and inspectors;
- fire marshals;
- county administrators and city managers; and
- police and military personnel.

The next step is to provide training and education to local officials on the electrical hazards that may arise as a result of a natural disaster. This includes preventive and protective measures that can be taken long before the disaster occurs. The training can be tailored to the specific needs of local officials based on the natural disasters likely to occur in their communities.

The primary activity before and during a natural disaster is frequent communication. This may be directly by phone and email or indirectly by social media. This exchange of information allows NEMA and local officials to determine the extent of the resources needed for the recovery.

Once the disaster has passed, coordination with local officials may include a visit to the affected region, participation in damage assessment work, and distribution of NEMA guides to local building

Responding Before, During, and After Flooding

Don Iverson,
Midwest Field
Representative,
NEMA

Flooding in the Midwest occurs predominantly in the spring, as the result of an overabundance of snowfall in the upper Midwest and Canada. Rivers and dams overflow into cities, devastating whole communities and displacing residents. Hurricanes cause similar damage elsewhere. Tropical storms peak in September and carry massive storm surges that collide with the southern seaboard of the United States.

Although predicting natural disasters may be difficult, the NEMA field representatives monitor these events to know when flood waters will strike. This information helps them address the severity of the disaster.

There are several actions that the field representatives take in a flooding event:

- Monitor news outlets and other public information outlets to determine the extent of damage and damage areas
- Maintain contact with state and local emergency management officials, mutual aid organizations, and code officials to determine need
- If possible, participate in Federal Emergency Management Agency (FEMA) briefings to responders as they prepare to deploy to a disaster area and join the FEMA response team as electrical subject matter experts
- Contact NEMA members in affected areas to see if assistance is needed

We widely distribute the NEMA guide, *Evaluating Water-Damaged Electrical Equipment*, in affected areas. It provides valuable advice on the safe handling of electrical infrastructure in buildings that experienced saltwater and contaminated flood water. Such damage not only hinders the electrical infrastructure from properly functioning but also removes from the equipment all safeguards that are there to protect the public from fire and electric shock. Ⓢ



Work crews use pumps to extract water from flooded basements.

Have a Plan

Are you prepared? The U.S. Department of Homeland Security (DHS) has designated September National Preparedness Month. According to the DHS, recognizing an impending hazard and knowing what to do to protect yourself, your family, and your business will help you prepare beforehand and aid recovery after the event.

Here are a few easy steps to start your emergency communication plan:

- Understand how to receive emergency alerts and warnings
- Discuss family, household, and business plans for disasters that may affect your area
- Collect information
- Identify an emergency meeting place
- Share information
- Practice your plan

For tips and a toolkit, visit www.ready.gov/natural-disasters.

New Day Dawns with Water-Damaged Equipment

Jack Lyons,
Northeast Field
Representative,
NEMA

On a trip to New York City about a year after Super Storm Sandy plowed up the coast and wreaked havoc on the New York and New Jersey coastlines, I responded to a call from an electrical contractor in Brooklyn whose client ran a laundromat a few blocks from the shore. The contractor asked if I could offer advice on mitigating future exposure to flood waters.



This equipment was completely submerged in salt water and left in service. Photo by Jack Lyons

NEMA Resources for Natural Disasters

After the Storm includes strategies for reducing the impact of power outages through a stronger, smarter electric grid.
www.nema.org/after-the-storm

Downed Power Lines explains how power lines can cause serious injury and death. Learn what to do when facing downed power lines.
www.nema.org/downed-power-lines

Evaluating Fire- and Heat-Damaged Electrical Equipment provides information on how to evaluate electrical equipment that has been exposed to heat and fire residue due to fire, firefighting activities, or close proximity to a fire.
www.nema.org/evaluating-fire-and-heat-damaged-electrical-equipment

Evaluating Water-Damaged Electrical Equipment provides advice on the safe handling of electrical equipment that has been exposed to water and outlines items that will require complete replacement or that can be reconditioned by a trained professional.
www.nema.org/evaluating-water-damaged-electrical-equipment

Grid Resilience includes ways to save lives, reduce outages, and protect property by rebuilding smart after a disaster.
www.nema.org/storm-disaster-recovery

Home Disaster Safety features weather-related safety tips and infographics from the Electrical Safety Foundation International:

- Stay Safe When Severe Weather Strikes
- Eyeing the Storm: Past and Future
- Generate Safety
- Downed and Dangerous
- Don't Shock the Neighborhood
- Safety Enlightenment
- Flood Safety: High Water, High Stakes

www.esfi.org/disaster-safety

It was an old neighborhood characterized by masonry brick buildings with basements. The area had been completely flooded with up to 12 inches of water above the street level. Since most electrical services were in the basements, the client's service equipment had been completely underwater.

He wanted to protect the equipment from future storms. When I asked how he addressed the damage to the current service equipment, he replied that he had done nothing. He didn't want to shut off any breaker, for fear that the power might not go back on.

I shifted gears and began to educate the business owner and the contractor on the effects of water (salt water in this case) on electrical equipment. They didn't know about the serious damage that most likely occurred to the interior of one of the most important protective devices in the electrical system—the overcurrent device.

With NEMA's *Evaluating Water-Damaged Electrical Equipment* in hand, I helped them work out a plan to remediate the problems left behind by the storm.

In our everyday function as NEMA field representatives, we provide information when there is confusion in the field. This contractor never considered the fire consequences of leaving damaged equipment in service. It may have been just another day in the life of a field representative, but it was the dawn of a new day for the contractor and his client. ☺

Earthquakes Call for Electrical Assessments

Earthquake! On August 24, 2014, at 3:20 a.m., I was awakened by strong shaking. As always, it came with no warning.

The Napa, California, earthquake was centered about 40 miles from where I live. The 6.0 magnitude quake did upwards of \$1 billion damage, left 70,000 residents without electrical power, and caused one fatality.

On the West Coast and in California in particular, wildfires, floods, and earthquakes are the three most common disasters. Although earthquakes are the least common of these three, they cause the most property damage—in the long run averaging almost twice the dollar amount of flooding costs. Since 1971, there have been 207 earthquake-related deaths in the U.S., 200 of which were in California. The others were in Hawaii, Idaho, Oregon, and Washington. Also since 1971, earthquakes have caused \$60 billion in property damage in California alone.

According to the Pacific Earthquake Engineering Research Center, the major causes of outages during earthquakes are failures of circuit breakers, transformer bushings, and disconnect switches at substations.

California has a robust emergency response program that includes 6,000 trained and certified disaster service worker (DSW) volunteers who assess damage



The Napa, California, earthquake in 2014 left 70,000 residents without electrical power. Photo courtesy of the City of Sebastopol, California

after natural disasters. I have been a certified DSW since the mid-90s. The focus of this program is earthquakes, since typically they have the most potential for widespread serious damage.

After a major earthquake event, building and fire officials always appreciate help from construction experts, including those who can properly assess electrical installations—NEMA field representatives' area of expertise.

I stand ready to assist after the next event, especially in evaluating damage to electrical equipment. Ⓜ

Mike Stone,
West Coast Field
Representative,
NEMA

Build and Rebuild Smart to Mitigate Disastrous Effects

Severe weather and fires, coupled with an aging and overstressed electrical infrastructure, may dramatically affect lives and property in the United States in the coming years.

This month marks the peak of the hurricane season. Forest fires, floods, earthquakes, and tornadoes, on the other hand, follow no calendar. Rebuilding the grid after any major event is a formidable challenge. The core principle of any major reconstruction effort should be rebuilding smart, to ensure that reconstruction funds maximize the deployment of technologies to save lives, mitigate future power outages, and protect property.

Resilient and reliable power is critical for first responders, communications, healthcare, transportation, financial systems, water and wastewater treatment, emergency food and shelter,

and other vital services. When smart technologies are in place, power outages are avoided and lives, homes, and businesses are protected.

By integrating information and communications technologies into the grid, utilities can not only minimize the extent of an outage but also immediately identify affected customers, shunt electricity around downed power lines to increase public safety, and enable faster restoration of services.

NEMA's 400-plus member companies and staff of experienced engineers and electroindustry experts spanning more than 50 industry sectors stand ready to assist industry and government officials when disaster paralyzes electrical infrastructure. To learn more about smart technologies and the roles they play in rebuilding smart, visit www.nema.org/storm-disaster-recovery. Ⓜ

1, 2, 3, GO!

Plan to Safeguard Imaging Facilities

Ruth Tesar, CEO,
Optimal Tracers
and Northern
California PET
Imaging Center

It seems we hear about natural disasters in the United States on an almost daily basis: fires, floods, tornadoes, hurricanes, earthquakes, etc., sometimes more than one at a time. Loss of power and utilities often accompanies the disaster, increasing the damage. So how can imaging facilities prepare?

First, and most important, have a plan.

Most people do not enjoy thinking about worst-case scenarios; however, it is imperative to have a plan to keep patients, staff, equipment, and data safe.

1. Identify an emergency plan administrator

The first step to creating a plan is to identify your emergency plan administrator. This person will be responsible for overseeing the development and evolution of the plan and running the emergency drills your facility should carry out. Under the plan administrator's guidance, assess your current level of preparedness, starting with the most likely disasters in the area. Maybe you would not plan for tornadoes in California, but in Kansas or Oklahoma tornadoes should be high on the list.

Once you have identified disasters that you hope never occur, it's time to determine how prepared you are for them. Review your facility's plans for evacuation, fire procedures, transportation, security, facility closures, hazardous and radioactive materials, employee notifications, aid agreements (with other facilities or government agencies), and insurance policies.

During this review, it can be helpful to meet with local representatives of emergency services, first responders, utilities, and public works. They may have suggestions and are the partners you want.

2. Back up facility operations

Identify the critical products, services, and operations that will need additional backup. For instance, if you are operating in a level 1 trauma center, you are more likely to continue imaging patients than if you are a freestanding center.

As you perform this analysis, consider the failure of one or more critical services such as power, water, sewer, and telecommunications that are critical to your operation. Do you have backup in place, such as a generator, to ensure continuation of services? Where


is the generator located? In the basement, which might flood? What about the equipment in your facility? Are safe shutdown procedures in place? Which items require backup power?

What about data systems? You want to ensure not only that you can continue to serve new patients but also that all data on previous patients are archived. Be sure that your data systems have backup that is physically located away from the original data, in case of flood or fire that could affect adjacent buildings or structures. Consideration should also be given to personnel information and accounting.

3. Consider cybersecurity

In this age of digital technology, planning for cyber threats is as important as ensuring physical security. As devices become increasingly connected to networks, security risks move beyond the systems to intrusions across digital networks. In a white paper on cybersecurity, the Medical Imaging & Technology Alliance (MITA) advises, "Cybersecurity in medical imaging is a shared responsibility between healthcare providers and manufacturers. Imaging staff must be aware of cybersecurity threats and best-in-class practices. Processes must be defined and implemented, and the proper technology must support ultimate zero-breach cybersecurity goals."¹

Whether for cyber- or physical security, implementation will depend on your staff and its knowledge of the plan. In addition to top-executive support, employee buy-in is essential, so include staff as the plan is developed. Employees will be at the front line, so they should be crystal clear on when the plan is initiated, what their responsibilities are, and how they will be notified. Testing the plan through drills is essential. Revisiting the plan and performing additional drills should be undertaken on a yearly basis.

Benjamin Franklin once said, "By failing to prepare, you are preparing to fail." Being prepared will enable you to stay open if necessary, reduce potential damage to the facility and equipment, and allow you to get back up and running more quickly after the disaster has passed. 

¹ NEMA/MITA CSP 1-2016 *Cybersecurity for Medical Imaging*

Shocking Tips for Electrical Safety

Electric hazards during extreme weather don't just come from the sky. In some cases, the ground can shock you, too.

High winds and other extreme weather conditions can knock down overhead power lines that can energize the ground up to 35 feet away, as well as other objects including buildings, trees, fences, and even other wires.

What should you do when you see a downed line? Keep away, and notify local authorities. You may not be able to differentiate a telephone line from a power line.

What if your car comes in contact with a downed power line while you're in it? Rather than driving away, stay in the car and call for help. Make sure people stay away from the car and the downed power lines. Only let emergency personnel approach the car.

Remember to never approach or touch someone who has come in contact with a power line. Contact local authorities as they will be equipped to help.

For Electrical Safety Foundation International's complete collection of disaster safety resources, visit www.esfi.org. @

DOWNED AND DANGEROUS

Downed power lines can be deadly. **ALWAYS** assume a downed power line is live and avoid going near it or anything in contact with it.

USE PRECAUTION

Downed power lines can energize the ground up to **35 feet** away.

If you see a downed power line, immediately **notify** the local authorities.

Never drive over downed power lines or through water that is in contact with them.

Never try to move a downed power line. Even using items that typically are not conductive **will not** prevent injury or death.

KNOW WHAT TO DO

The safe way to move away from a downed power line is to **shuffle** away with small steps, keeping your feet together and on the ground at all times.

If your car comes in contact with a downed power line while you are inside, **stay in the car**. Do not touch any part of the car's frame or any other metal. Use a cell phone or honk your horn to summon help. Allow only rescue personnel to approach the car.

If your car is in contact with a downed power line and you must exit due to fire or another imminent threat:

- Do not touch the vehicle and the ground at the **same time** with any part of your body or clothing.
- Open the door to your vehicle without touching the metal door **frame**.
- Jump out of the vehicle with both **feet together** and so both feet land at the **same time**.
- Shuffle** away so that the toe of one foot shuffles forward along the length of the other foot, ensuring that both feet are in constant contact and always touching the ground.

If someone comes in contact with a downed power line or something else that has become electrified, **call 911 immediately**.

Never touch someone who has come in contact with a power line. They are energized and pose a danger to anyone who comes in contact with them.

Remember power lines don't have to fall in order to be dangerous. Always **call 811** before you dig and keep yourself and your equipment at least **10 feet** from overhead power lines.

ESFI For more power line and severe weather safety tips visit www.esfi.org.

www.facebook.com/ESFI.org www.twitter.com/ESFI.org www.youtube.com/ESFI.org

Daniel Majano, Program Manager, ESFI

Members of Congress Visit NEMA Member Facilities

In an effort to encourage communication between Congress and NEMA manufacturers, NEMA staff contacted senators and representatives to facilitate visits to member company locations during the summer recess and into the fall.

This year, more than 100 congressional offices expressed interest in learning more about NEMA members in their area.

To learn more about this effort or to get help reaching a member of Congress, contact the NEMA government relations staff.

Rep. Mike Bost (R-IL), far right, toured the Legrand plant that manufactures utility products in Du Quoin, with Bob Crain, director of marketing/product development; Scott Bausch, vice president and general manager, Cablofil; and Brad Zimmer, plant manager.



Rep. David Jolly (R-FL), second from right, visited Instrument Transformers, LLC, a division of GE Energy Connections. To his immediate left is Alan Swade, Capacitors Business Leader. To his right is Erik Olson, Capacitors Plant Manager, and a member of Congressman Jolly's staff.





Rep. Adam Kinzinger (R-IL), visited Spectrum Brands Rayovac plant, which makes batteries, building systems, and related products. Those joining Congressman Kinzinger on the tour were (from the left) Leslie Parker, Kristina Tucker, Mike Klingberg, Congressman Kinzinger, Patty Murray, Mike Dragoo, and a member of Congressman Kinzinger's staff.



Rep. Brad Wenstrup (R-OH) visited ILSCO, which manufactures mechanical and compression connectors. He is flanked by (from the left) Doug Webster, director, production control; Jim Valentine, vice president, finance; and Thomas H. Quinn, president, Bardes Corporation.

NEMA Chimes In on Energy Bill

Before leaving for summer recess, the Senate voted to form a conference committee with members from the House of Representatives to work out the differences between each chamber's energy bills. The committee hopes to send a final bill to the president to sign before the end of the year.

NEMA has been working throughout this session of Congress to ensure that NEMA member priorities are part of both bills. These efforts have resulted in having nearly 20 different provisions included in one or both bills. Those priorities include fixing the external power supply rulemaking affecting lighting members; the rebate

programs that would benefit motor, drives, and transformer sections; and making improvements to the regulatory process at the Department of Energy.

To draw attention to these priorities and to promote their inclusion in the final bill, NEMA staff has organized a day on the Hill for NEMA members this month so that they can meet with congressional staff to articulate the impacts these provisions will have on their companies and their employees.

The next issue of *electroindustry* will report on the event and where the process stands. ☺



Are you registered to vote?

Voting is one of our most important rights. Registering to vote is easy!

Visit the **NEMA 2016 Election Center** to learn about:

- Registration process
- Absentee ballots
- Early voting due to travel and other circumstances
- Finding your legislator
- Dos and don'ts of federal election law
- Voter education

National Voter Registration Day on September 27, 2016, is an excellent time for your company to conduct a non-partisan voter registration drive with its employees by using the NEMA 2016 Election Center.

To learn more, visit www.nema.org/nema-vote-now.



Data Certification Program Responds to Needs

Imagine this: A potential buyer visits a car dealership looking for the latest model, but the dealer only has specs for a previous model. Though similar, the outdated specs do not include the enhanced safety features or environmental certifications available in the new model. The buyer may then go elsewhere to find the information. To avoid completely losing the sale, the dealer could offer a comparable car from a different maker, although that would take a sale away from the first automaker and possibly damage the relationship between that maker and the dealer.

Similarly, electrical distributors require comprehensive, accurate, and well-maintained product details from their manufacturers. If manufacturers provide their trading partners with information that has gaps and errors, those partners must then devote resources to correcting that data or else run the risk of passing bad data to end users. Sloppy or outdated product data can make trading partners less willing to do business with a manufacturer, ultimately costing that manufacturer sales and negatively impacting its brand.

Sloppy or outdated product data can make trading partners less willing to do business with a manufacturer.

On the other hand, sharing complete and current pricing and marketing content from the start reduces errors and unnecessary operational expenses. Distributors and end users value manufacturers who make their jobs easier. With continually updated, accurate product information, distributors can sell more of your products.

This need for accessible, high-quality data was a motivating factor behind the development of IDEA's Data Certification Program. Superior quality is the program's primary goal for 2016, as IDEA works to help manufacturers achieve programmatic excellence: once a manufacturer's item is compliant—that is, its product and pricing

data are completely populated within the industry data warehouse (IDW)—the quality of that data is assessed.

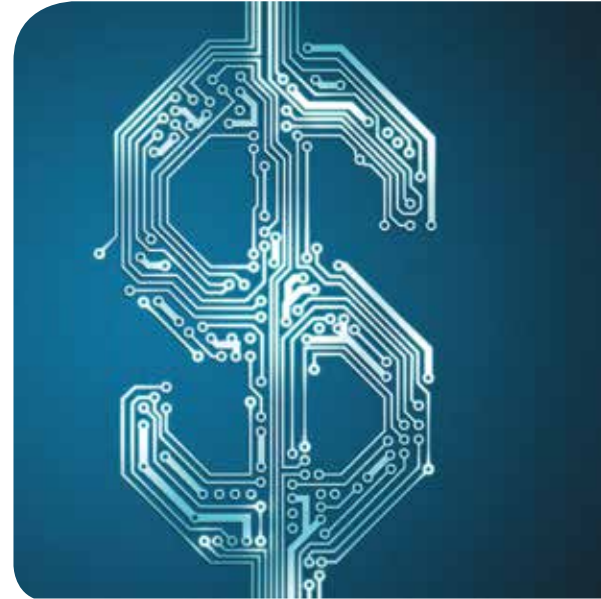
In the first of two quality checks—the “programmatic excellence” check—industry standards and IDEA best practices (a combination of industry standards, best practices, customer feedback, and IDEA expertise) are applied to data at the item level.

Achieving and Maintaining Quality

To assist manufacturers as they work toward programmatic excellence, IDEA offers a number of data management resources:

- **Tools within the IDW:** The IDW Excellence Module and the Data Quality Reporting Tool help manufacturers identify and address quality issues at the source. A guide of the most common programmatic excellence errors and respective error resolutions is also available.
- **IDW training:** IDEA hosts live and recorded webinars that provide an overview of programmatic excellence and a demo of the IDW Excellence Module. Quick Reference Guides and videos are also available, so manufacturers can easily refresh their training.
- **Data management specialist consulting and support:** IDEA's data management specialist team provides manufacturers with actionable reports to identify excellence issues and help them improve the quality of their data.

Top manufacturers have always understood the importance of providing complete and accurate product and pricing information to their trading partners. IDEA is here to help them in their pursuit and maintenance of superior data quality. ☎



Busy Times Ahead for West Coast Code Adoptions



The 2017 edition of the *National Electrical Code*® (NEC) will soon be published, and next year promises to be a busy time for code adoption in the West Coast region. States in this region that will consider adoption of the 2017 NEC include Idaho, Montana, New Mexico, Oregon, and Washington.

After several stakeholder meetings, the Idaho Electrical Board voted to adopt the 2017 NEC on July 21. The board also carried over several existing amendments that had to do with residential requirements. Its adoption recommendation will now go to the Idaho legislature for consideration during the 2016–2017 legislative session. If the legislature votes to adopt, the 2017 NEC will become effective in July 2017.

In New Mexico, the Electrical Technical Advisory Council and Electrical Bureau are working toward the goal of adopting the 2017 NEC by year's end, with an effective date of July 1, 2017. Montana will likewise begin consideration of 2017 NEC adoption with an effective date in the latter part of 2017.

Oregon has drafted a tentative schedule for 2017 NEC adoption, beginning with a code change proposal period and solicitation of code review committee members in September 2016. The code review committee will hold meetings from October to December 2016 and will make recommendations to the Electrical and Elevator, Residential, and Manufactured Structures Boards. A public rulemaking hearing will take place in May 2017 and, if approved, the 2017 NEC will become effective in Oregon on October 1, 2017.

The Washington Labor and Industries Department will soon publish a proposed timeline for the rule revision process for the 2017 NEC, which will

include timelines for submitting proposals and the application process for serving on the Electrical Technical Advisory Committee. The projected effective date for the 2017 NEC is July 1, 2017.

In other West Coast code activity:

- The California Building Standards Code (Title 24) has been published and will be effective January 1, 2017. Its codes are based on the 2015 International Code Council codes (I-Codes), the 2014 NEC, and its own Energy and CALGreen codes.
- The 2015 I-Codes with state amendments became effective in Washington on July 1, 2016.
- Hawaii has approved the adoption of the 2014 NEC and the 2012 I-Codes, but their effective date has been delayed due to lack of an administrative budget to implement them.
- The 2015 I-Codes and the 2014 NEC became effective in Utah on July 1, 2016. The residential portions of the codes were put on a six-year code cycle by the state legislature.
- Alaska is in the process of adopting the 2012 I-Codes. The public comment period closed on July 29, and the Division of Fire and Life Safety of the Department of Public Safety is considering the next steps. The 2014 NEC became effective in Alaska on March 6, 2016.

NEMA has been and will continue to be active in all of these activities, advocating on behalf of NEMA members for adoption of the most current codes without amendment. ☺

This Month in Standards

ANSI C78.385-1961 (S2016) *Methods of Measurement of Glow Lamps* outlines the procedures to follow and precautions to observe in testing glow lamps. It can be purchased in hard copy or as an electronic download for \$50 on the NEMA website.

NEMA ABP 1-2016 *Selective Coordination of Low-Voltage Circuit Breakers* provides guidance to engineers regarding the *National Electrical Code*® requirements for selective coordination. This paper specifically addresses how to comply with these requirements for low-voltage circuit breakers. It is available for download at no cost on the NEMA website.

NEMA LSD 23-2016 *Recommended Practice—Lamp Seasoning for Fluorescent Dimming Systems* provides a recommended practice to season lamps for fluorescent dimming systems. It is available for download at no cost on the NEMA website.

NEMA SB 23-2016 *Guide for Application of Flame Detection* provides information concerning the proper use of flame-detection systems. It covers the major technologies used for flame detection, application, selection, installation, and testing. It is available in hard copy for \$29 or as an electronic download at no cost on the NEMA website.

NEMA TS 2-2016 *Traffic Controller Assemblies with NTCIP Requirements—Version 03.07* covers traffic signaling equipment used to facilitate and expedite the safe movement of pedestrians and vehicular traffic. It is available in hard copy or as an electronic download for \$263 on the NEMA website.

NEMA/MITA XR 30-2016 *Quality Control Tools for Digital Projection Radiography* defines a set of minimum requirements to facilitate healthcare providers with quality control of digital projection radiography. It is available for download at no cost on the NEMA website. ©



IDEA's Industry Data Warehouse (IDW)

of fully attributed, complete SKUs in the IDW:

1 4 4 0 0 0 1

and counting...

**SUPPLIED +
MAINTAINED
BY MANUFACTURERS**



Web-ready, high-quality marketing content



images



spec sheets



urls



labels/pricing

Pushed **directly** to distributor eCommerce platforms & contractor estimating systems

66:

The IDW offers up to **66** product attributes for manufacturer SKUs

Up-to-date product information available

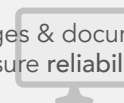
24/7/365



Continual data quality checks through the Data Certification Program



Stored images & documents hosted by IDEA to ensure **reliability & stability**



For more information on IDEA's Industry Data Warehouse, please contact our Data Management Specialists or visit:

www.idea4industry.com

Lining Up Opportunities in Cuba



With policy changes thawing relations between Cuba and the United States, NEMA staff met with Cuban embassy officials and staff from the U.S. departments of Commerce and State in order to assess trade potential for NEMA/MITA members. Moving beyond initial discussions and research, Jonathan Stewart, government relations manager at NEMA, and Andrew Northup, director of global affairs at MITA, visited Cuba in early July for discussions with Cuban government officials in the commercial, utilities, and healthcare sectors. The staff also conducted an initial assessment of the Cuban market for NEMA/MITA scope products.



Jonathan Stewart, Government Relations Manager, NEMA, and Andrew Northup, Director, Global Affairs, MITA, visited Cuba to assess the Cuban market for NEMA/MITA scope products.



Healthcare is a high priority for the government, and hospitals have near-state-of-the-art medical and diagnostic imaging units.

Cuba's electrical grid serves 98 percent of the country and was built using U.S. standards. It is maintained with non-U.S. products that have been tailored to fit. The national focus now



Cuba must address overall grid capacity.

is on growing renewable generation, but at some point the country will need to address overall grid capacity. Energy efficiency is a major concern and opportunity, especially given that Cuba's main source of fuel is Venezuela.

Healthcare is a high priority for the Cuban government, and hospitals have near-state-of-the-art medical and diagnostic imaging units. Currently, some types of units cannot be used to their full potential because service and spare parts are difficult to acquire. This may be somewhat related to a trade embargo. The DICOM standard for image and data transfer is in use, but only between hospitals. These challenges present some opportunities for MITA companies.

It is difficult to predict to what extent real and worthwhile opportunities will be available for NEMA/MITA members in the coming years, due to uncertainties related both to the regulatory outlook and market forces. But an underlying premise for our engagement thus far was confirmed through dialogue in Cuba: early arrivers to the market will be in the best position to take advantage of opportunities if and when they present themselves. ©

Indexes Suggest Conditions Conducive to Expansion

NEMA's Electroindustry Business Conditions Index (EBCI) remained above 50 again in July, signaling that conditions continue to be conducive for expansion in this sector. However, the current conditions index retreated back toward the threshold point from 59.4 in June to 53.6 in July.

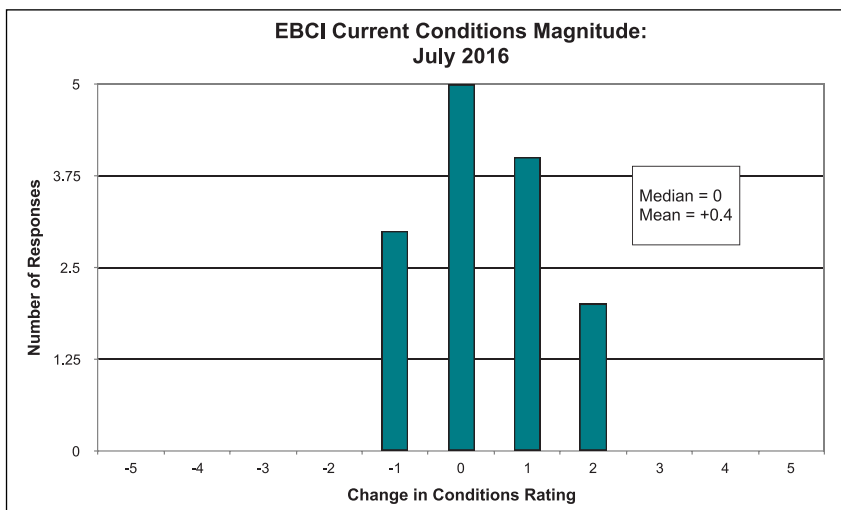
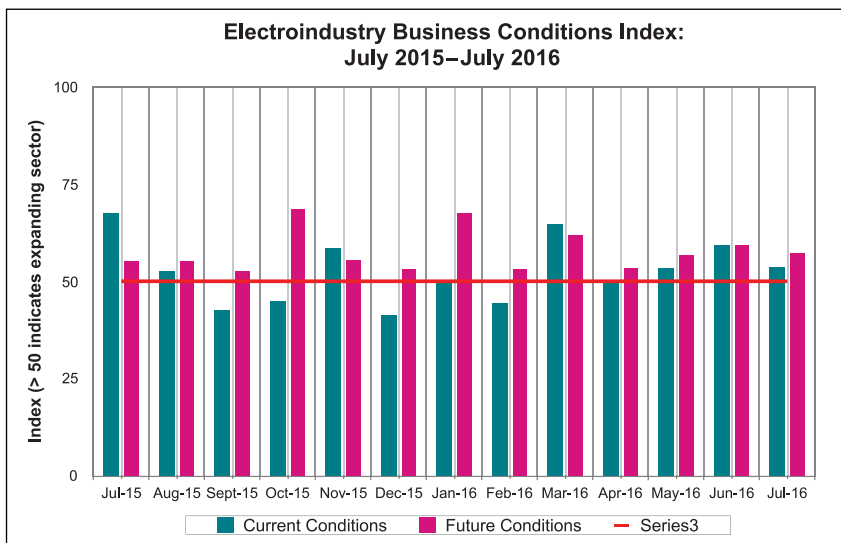
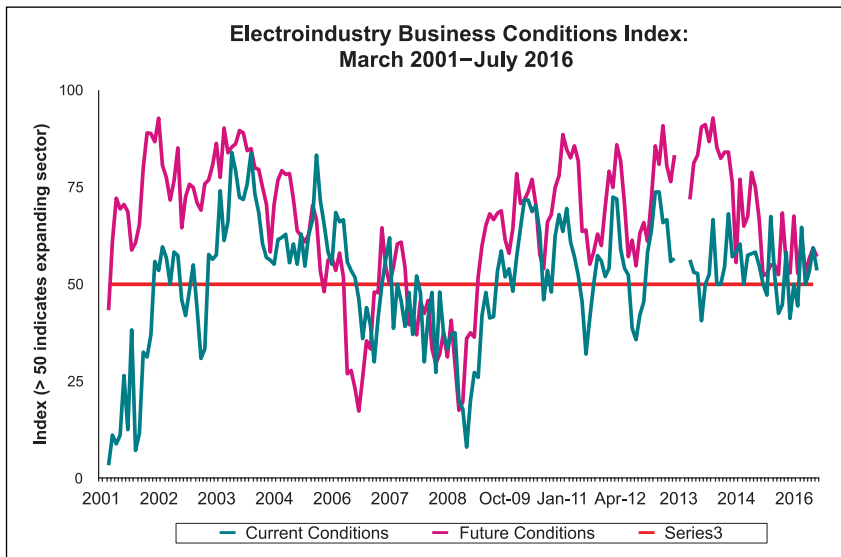
A majority of July's respondents, 64 percent, reported conditions unchanged from the previous month, which is up substantially from the 44 percent who thought so in June. Unsurprisingly, the share of those reporting better conditions dropped from 38 to 21 percent from June to July, while the proportion of respondents who noted worse conditions declined as well, but only by five points, from 19 to 14 percent.

The survey's measure of the intensity of change in electroindustry business conditions edged up from June, with the mean rating going from +0.2 to +0.4. Panelists are asked to report intensity of change on a scale ranging from -5 (deteriorated significantly) through 0 (unchanged) to +5 (improved significantly).

The future conditions index also remained above 50, even though it softened slightly as well, easing back to 57.1 in July from 59.4 in June. A plurality of respondents see conditions unchanged in six months, with 43 percent reporting no change in July, versus 31 percent in June.

As with the current conditions index, a smaller share of respondents (36 percent, compared to 44 percent in June) expect better conditions, while those expecting worse conditions slid from 25 to 21 percent.

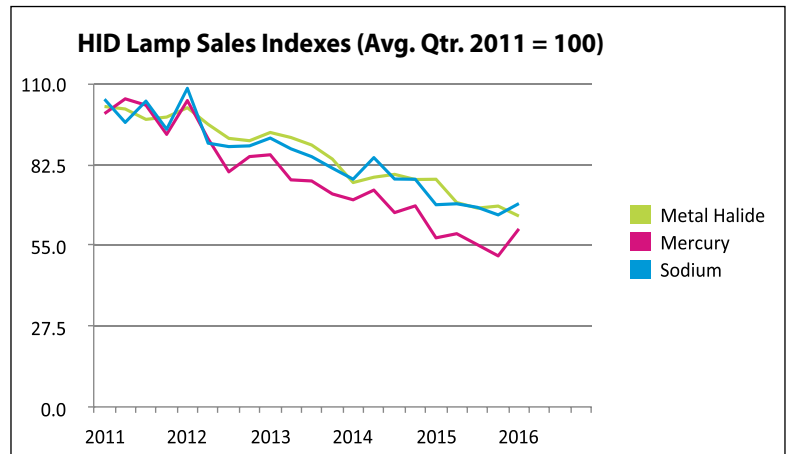
Visit www.nema.org/ebsci for the complete July 2016 report. ©



HID Lamp Indexes Start 2016 with Mixed Results

NEMA's shipments indexes for high-intensity discharge (HID) lamps started the year with mixed results. Sodium vapor lamp and mercury vapor lamp shipments indexes rose in the first quarter of 2016 compared to the first quarter of 2015, increasing 0.6 percent and 5.3 percent, respectively.

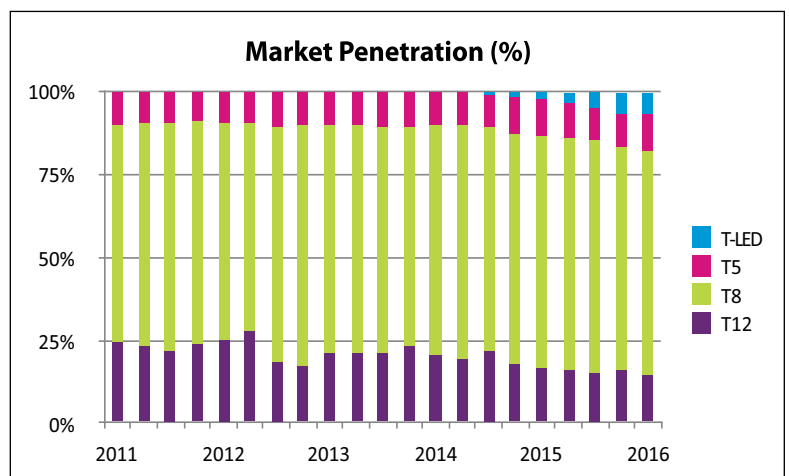
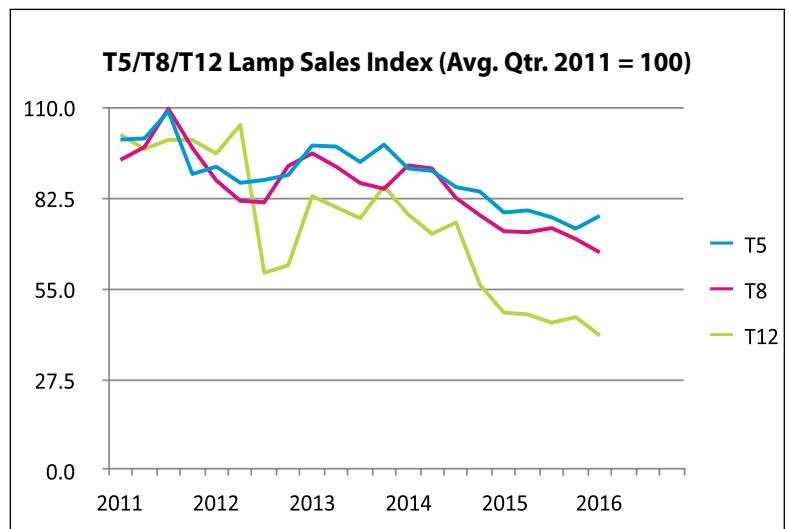
Shipments of metal halide lamps in the first quarter of 2016 decreased by 16.1 percent compared to the same period last year. Sodium vapor lamps accounted for 34.1 percent of high intensity discharge lamp sales in the first quarter of 2016, while mercury vapor and metal halide lamps accounted for 4.1 percent and 61.8 percent of sales, respectively. ©



Linear Fluorescent Lamp Indexes Continue to Slide

NEMA's linear fluorescent lamp shipment indexes declined for the ninth consecutive quarter in the first quarter of 2016 on a year-over-year (y/y) basis. After increasing modestly in Q4 2015, the index for T12 lamps posted a 12.0 percent quarter-over-quarter decrease and a steeper 14.5 percent decline from Q1 2015. T5 and T8 shipments also continued to decline, decreasing by 1.3 and 8.9 percent, respectively, on a y/y basis.

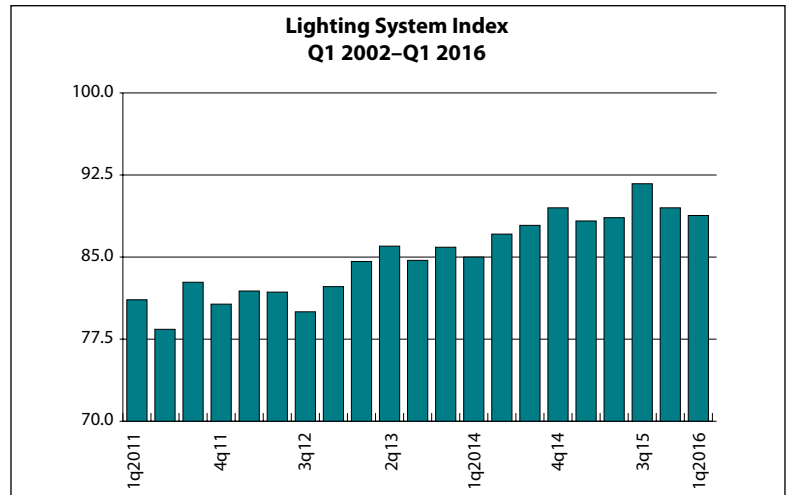
T8 lamps accounted for a 67.4 percent share of fluorescent lamp shipments in Q1 2016, with T12 lamps claiming a 14.5 percent share and T5 lamps a 11.2 percent share. T-LED lamps accounted for a 6.9 percent share of shipments in Q1 2016, marking their first appearance in the market penetration chart. NEMA will continue to track the growth of T-LED lamps and will integrate the category into the index as more historical data becomes available. ©



Lighting Systems Index Decreased with Mixed Results

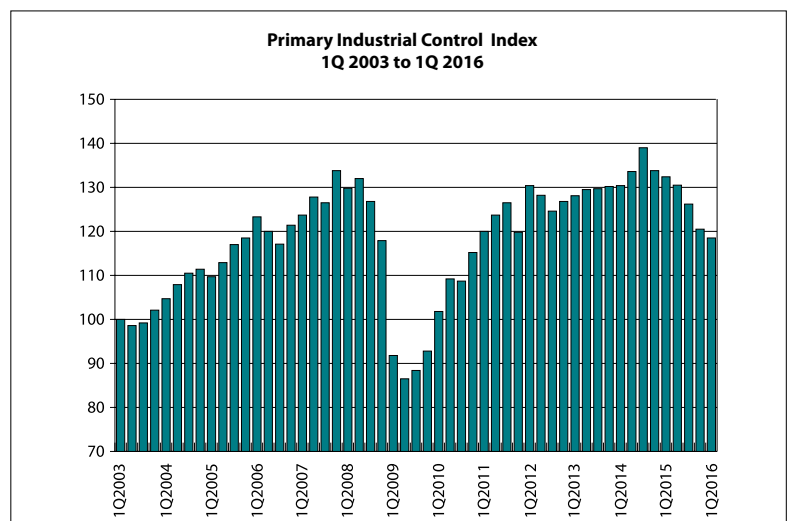
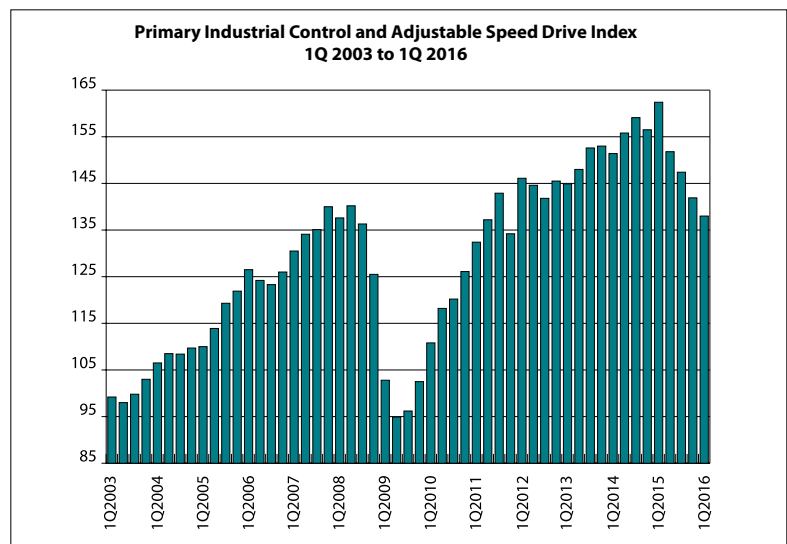
NEMA's Lighting Systems Shipments Index, a measure of demand for lighting equipment, decreased 0.8 percent quarter-to-quarter, while posting a 0.6 percent increase year-over-year (y/y) during Q1 2016.

Fixtures and emergency lighting components of the index gained ground on a y/y basis, while ballast, miniature lamp, and large lamp components recorded y/y declines. ☹



NEMA's Industrial Controls Indexes Continue Decline

NEMA's Primary Industrial Controls Index showed a 1.7 percent decrease in the first quarter of 2016 compared to the previous quarter. The index was down 10.5 percent compared to the same period a year ago. A broader measure of shipments, NEMA's Primary Industrial Controls and Adjustable Speed Drives Index, posted a 2.7 percent decrease in the first quarter compared to the last quarter and a 15 percent decrease from the same period in 2015. ☹



SPOTLIGHT



Denise Pappas

Listen to the Expert

Listen to Denise Pappas, executive director of technical standards at Valcom and chair of the NEMA 3SB Communications Committee, discuss the role of mass notification planning in saving the lives of building occupants and first responders.

Tune in to www.nema.org/mass-notification on NEMAcast. 🎧

NEMA's Ken Gettman Honored with 2016 ANSI Finegan Standards Medal



Ken Gettman

Ken Gettman, NEMA's international standards, is the 2016 recipient of the American National Standards Institute (ANSI) Finegan Standards Medal. This award honors an individual who has shown extraordinary leadership in the actual development and application of voluntary standards. Gettman will be recognized at an awards ceremony and banquet on October 26, 2016, held in conjunction with World Standards Week in Washington, D.C.

"Ken has done consistently outstanding work on international standards development with ANSI and others," commented

NEMA President and CEO Kevin J. Cosgriff. "This award is well-deserved recognition of the substantive contributions he has made to NEMA and the electroindustry."

An engineer by training, Gettman has worked at NEMA for the past 22 years, before which he worked at Underwriters Laboratories and served in the United States Navy. He is secretary of the International Electrotechnical Commission (IEC) Subcommittee 22G on Adjustable Speed Drives and serves as the NEMA representative to the United States National Committee (USNC) Technical Management Committee. Gettman is highly involved in USNC/IEC activities, including coordinating U.S. participation in 18 IEC technical and subcommittees and serving as a U.S. expert in more than 50 IEC working groups. He is currently the vice chair of the Institute of Electrical and Electronics Engineers (IEEE) International Committee on Electromagnetic Safety (SCC39).

For more information on ANSI, the award, and World Standards Week, visit the ANSI website. 🌐

We Are NEMA



Herodotus, a Greek historian and contemporary of Socrates, described the expedition of the Greeks against the Persians about 500 BCE in words that are often ascribed to U.S. mail carriers:

"neither snow nor rain nor heat nor gloom of night stays these couriers from the swift completion of their appointed rounds."

Read how NEMA field representatives (pictured from the left) Don Iverson (Midwest), Jeff Lyons (Northeast); Bryan Holland (South), and Mike Stone (West) embody this dictum on pages 15–19. 📖

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CSA Group understands the impact energy storage testing has on the safety of your products and end users. As an OSHA Nationally Recognized Testing Laboratory (NRTL) and through our accreditations by the Standards Council of Canada (SCC), we are fully qualified to confirm portable and stationary energy storage systems meet U.S. and Canadian national standards for safety or performance. Whether your batteries are being used in watches, power tools, hoverboards or as part of a home solar panel system, we can help you get the certifications needed to install and use your batteries in North America and around the world. It's the support you need to contribute to a safer society and a more sustainable planet.

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