

# electroindustry

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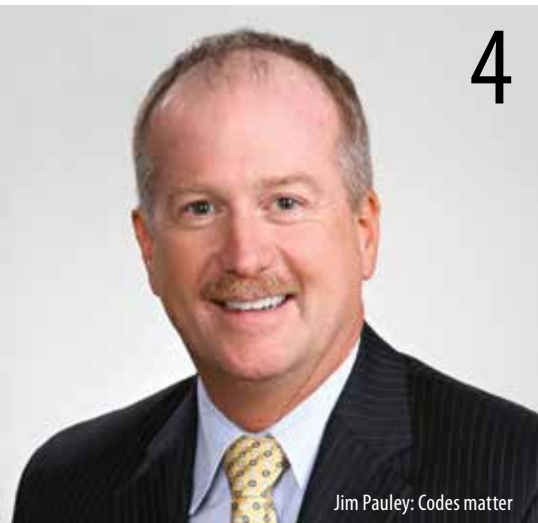
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## electroindustry

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### NEMA Members: Share Your Manufacturing Day Pictures

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This month, NEMA celebrates the fifth anniversary of its Strategic Initiative to preserve and support the three-year code adoption cycle. Led by the Standards and Conformity Assessment Policy Committee (SCAPC) and its Codes and Standards Committee (C&S), NEMA specifically supports a three-year adoption cycle by states and local jurisdictions for national model building codes—including electrical, life safety, and energy—to coincide with the code development cycles. Especially in this time of rapidly changing technology, we believe this is the best way to ensure ever-improving standards for safety and performance in the home, workplace, schools, and healthcare facilities.

Code adoption cycles do stir some controversy, and there are some observers who have advocated for six-year adoption cycles, citing the increased cost of implementing new codes. As NEMA Members, we are committed to providing products that ensure efficiency, value, and safety, but our interest in preserving the three-year cycle is largely driven by a single question: What is the correct code cycle to ensure that we are appropriately focused on maximizing safety and protecting consumers of electrical products?

One fairly recent example of a code change that significantly improves consumer safety is the mandated use of arc-fault circuit interrupters (AFCIs) to reduce fire risk. Some contractors, homeowners, and builders may balk when a code update marginally increases their overall costs, but those reservations dissipate quickly when the products and systems we offer are demonstrated to be safer for all customers. The more quickly promising technologies are adopted into standard building practice, the higher their potential value to society.

NEMA committee members do appreciate the challenges that contractors and code officials face as they strive to keep up with code changes. While we are steadfast in our support of the three-year code adoption cycle, we also accept that we have a responsibility to help local code enforcement agencies become educated on code changes and to help states and municipalities understand the advantages of the most recent codes. Our Members often travel to state capitals and industry meetings to train, educate, and advance support for code adoption timelines. This is part of being a responsible manufacturer.

As NEMA Members, we are dedicated to producing efficient, innovative, and effective products that improve people's lives, enhance value, and ensure safety.

Take the opportunity to get involved and contribute to C&S, SCAPC, code adoption efforts, or one of the Strategic Initiatives that NEMA has defined for 2018. Make your voice heard. Together, we can make sure the electrical manufacturing industry continues to provide products and solutions that make everyone's lives better and safer and improve the value of the goods and services we provide. ☺

Michael Pessina  
Chairman, NEMA Board of Governors

### Rebuild Strong, Rebuild Smart

In the aftermath of Hurricanes Harvey and Irma, NEMA and the Electrical Safety Foundation International (ESFI) support the rebuilding of homes, businesses, utilities, and infrastructure with a free Storm Reconstruction Toolkit.

Visit [www.nema.org/storm-reconstruction-toolkit](http://www.nema.org/storm-reconstruction-toolkit) for short-term resources and long-term solutions.

## Our Message Is Clear: Codes Matter

**Y**ou don't have to look far to see the changes that shape the way we live, work, and spend our free time: the smartphones in our pockets, the gadgets in our homes and offices, the cars we drive, the way we build, and the products we use.

The public relies on and expects technology. It is transforming just about everything and happening faster and faster.



Yet we are seeing one of the most troubling trends in fire, life, and electrical safety—the push to skip code cycles or extend code adoption six or more years. The public seems to have forgotten that codes and standards are one of the reasons that losses from fire, electrical, and other hazards decreased significantly over recent years. If policymakers and the public don't see tragedies, they don't understand the importance of updated codes. Have we not done a good enough job of educating them about the value of codes and their role in advancing technology

and promoting safety? Obviously not. We must do better.

Standards developing organizations have been around for more than a century, benefiting governments, the private sector, and ultimately the public. This time-tested system is one of the oldest, most successful public-private partnerships. Until recently, the system was largely unknown beyond those involved. It simply worked. But as special interests, a complacent public, and an anti-regulatory environment converge, we find the system's significance to society in need of explaining.

What should we be saying?

### CODES MATTER

Modern safety codes such as the *National Electrical Code*® (NEC) improve safety and advance innovation. They are updated every three years to incorporate the latest research, learnings, and technology.

### CODES IMPACT SAFETY AND RESILIENCE

Beyond fatalities and injuries, the United States sees billions of dollars in property damage and economic losses from natural disasters every year. The latest codes and standards encourage the availability of the most advanced design methods and construction techniques to protect public safety, improve the resilience of homes and businesses, and offer best practices to reduce losses.

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You wouldn't buy a new computer  
and settle for outdated software to  
power it. Why would we want buildings  
constructed to outdated standards?

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### CODES SUPPORT INNOVATION

In addition to improving safety, updates to key codes can save money, enable new technology, and spur economic efficiency. For example, recent changes to the NEC give installers of alternative energy systems (e.g., photovoltaics and wind) more economical options for choosing the equipment needed to connect the system to the grid. On the horizon, new energy storage systems may give homeowners even more options for energy efficiency and reliability. Updates to the model code ensure these products can be safely installed.

You wouldn't buy a new computer and settle for outdated software to power it. Why would we want buildings constructed to outdated standards?

It is up to all of us who care about safety to tell this story. ☺



## NEMA Welcomes New Members



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## Preserving Safety with Three-Year Code Cycles: *A Retrospective View of Five Years of Proactive Vigilance*

Vince Baclawski,  
Senior Technical  
Director, Codes  
and Standards,  
NEMA

**A**t the December 15, 2011, meeting of the NEMA Codes and Standards Committee (C&S), two members reported a disturbing trend: several states wanted to move from a three-year code adoption cycle to a six-year or longer cycle. The move was in response to criticism that three-year model codes may significantly affect the construction, configuration, and cost of new residential buildings.

The moves conflicted with NEMA's position that a longer code adoption cycle delays implementation of safety improvements and technological innovations. To counter this trend, C&S submitted a proposal to the NEMA Board of Governors for a 2013 Strategic Initiative to preserve the three-year code adoption cycle. The Board approved the proposal at its July 2012 meeting.

C&S established the Task Force on State Code Adoptions to manage the initiative. Under the leadership of Alan Manche, vice president of external affairs at Schneider Electric, the task force immediately developed strategic and action plans, both of which were approved by C&S in October 2012.

The task force hit the ground running. In January 2013, it received additional funding to oppose actions to delay code adoptions in several states, including Connecticut and Tennessee. The initiative was renewed in 2014 and 2015. In 2016, it transitioned to a NEMA-wide program under the auspices of Operations and Government Relations, where it continues to reside.

*Continued on page 8*

## From the Trenches: Strong Codes Save Lives

**N**EMA's Task Force on State Code Adoptions asked individuals who have been involved in the timely adoption of national codes to share their views on the fifth anniversary of NEMA's Strategic Initiative to preserve the three-year code adoption cycle. This is what they had to say.

**Deana Dennis, Senior Manager of Government and External Relations, EPRI (formerly with NEMA)**

Largely a grassroots advocacy effort, this initiative got the NEMA membership engaged in ways they had never been before. It was rewarding to see technical company representatives discuss the importance of public safety and technological innovation in the built environment with legislators and code councilmen. It got them thinking in a way they hadn't previously.

**Tom Domitrovich, Vice President of Technical Sales, Eaton**

We are in the trenches with industry partners who support what is good for our industry. While an individual company may not be able to engage in code adoption, NEMA has the legal and government relations resources to navigate the unique waters of code adoption. This is a value proposition to NEMA Members, giving them a voice at industry meetings.

**Christopher Hess, Director of Public Affairs, Eaton**

Promoting the adoption of the most current electrical codes may be the most important activity NEMA organizes on behalf of the electrical industry. Since state and local governments look to NEMA as a trusted adviser, it is critical that the association continue to advocate for common-sense codes that promote safety and sustainability through the use of improved technologies.



## National Electrical Code: State Adoption October 2017



**Bryan Holland, South Field Representative, NEMA**

The success of the Strategic Initiative is a result of effective teamwork between the NEMA Members, NEMA staff, and industry partners. No one strategy, tactic, or action plan is a “fit-all” for every state or every situation. Through teamwork, we have been able to successfully navigate difficult challenges but also capitalize on positive opportunities.

**Meghan Housewright, Associate General Counsel, NFPA**

As a member of the CCSC, NEMA has impressively defended the timely adoption of codes and standards. This work reduces instances of fire and injury, particularly in homes. The responsiveness of NEMA Members and staff—testifying at legislative hearings, leading stakeholder coordination efforts, writing letters in support of the codes—has educated policymakers and brought attention to the issue.

**Don Iverson, Midwest Field Representative, NEMA**

The extended adoption cycle first showed up in Michigan. I remember saying that if our opponents were successful, it would show up in other states also. Unfortunately, the opponents were successful for one- and two-family dwellings. However, we were able to keep the commercial code on a three-year cycle. The Strategic Initiative has demonstrated that time and resources were well spent.

**Michael Jouaneh, Manager of Sustainability and Energy Standards, Lutron Electronics Company, Inc.**

It is difficult to track building code adoption for every state since each handles its own adoption. Also, some jurisdictions within a state have separate processes. While many NEMA Members participate in code development on national model codes or standards such as the IECC or ASHRAE 90.1, it doesn't help if states don't adopt the codes. NEMA Members make many of the solutions that meet requirements in the codes to improve energy efficiency and safety in buildings.

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## Teaming Up

The International Code Council (ICC) and the National Fire Protection Association (NFPA) established the Coalition for Current Safety Codes (CCSC). Its objective mirrored NEMA's: preserve the three-year code adoption cycle. The CCSC and its founding organizations continue to be valuable coalition partners with NEMA in achieving this objective.

During the past five years, NEMA and its coalition partners have had varying degrees of success in the drive to maintain the three-year adoption cycle in individual states, as seen on the map on page 7.

Undoubtedly, the opponents of timely code adoptions will neither go away nor change their position. It is possible that they will intensify their efforts.

How will NEMA and its coalition partners respond to this? By staying vigilant, getting alerts out as soon as an activity to stall a code adoption is identified, and quickly forming a state or local coalition to counter the opposition. We will be proactive, taking a positive message about timely code adoption to regulators, legislators, and governors.

In order to commemorate this initiative, many involved individuals shared their thoughts, beginning on page 6. 📍



Members of the NEMA Task Force on State Code Adoptions talked about the historical significance of maintaining the three-year adoption cycle during a recent Codes and Standards meeting. They are (from left) Steve Rood of Legrand/Pass & Seymour, Vince Baclawski of NEMA, Bryan Holland of NEMA, Alan Manche of Schneider Electric, and Ken Rempe of Siemens Industry. Photo by Pat Walsh

### **Tim McClintock, Regional Electrical Code Specialist, NFPA**

Working with industry allies to support timely adoption of the NEC preserves minimum safety requirements and keeps pace with advancements in new and evolving technologies. This collaborative effort provides a platform for a broad cross-section of industry stakeholders at national and local levels to provide a unified voice for the timely and unamended adoption of the NEC.

### **Edward M. Orlet, Senior Vice President of Membership and Marketing, NAED**

The recent devastation from Hurricanes Harvey and Irma brings into sharp focus why strong codes matter. Strong codes save lives. Product technology is evolving rapidly. It is important that policymakers understand how easily codes can become dated sooner than they realize.

### **Tom Phillips, Senior Director of Government Affairs, Siemens Industry**

Clearly, progress has been made that would have not occurred if NEMA leadership had not been involved. We believe that protecting the established three-year code cycle is vital to the advancement of fire life safety, electrical safety, and the safety of first responders. An individual could not have the impact that NEMA is having. There is strength in NEMA membership and professional management.

### **Ken Rempe, Manager of Industry Standards, Siemens Industry**

This is a critical activity within NEMA. This effort focuses on adopting the latest installation and construction codes that protect families and their homes from the devastation of electrical fires and significant weather events such as hurricanes. As an electrical manufacturer, the safety of our customers is always a top priority. To the diverse group of individuals and companies involved, safety outweighs the cost of safety products.

# Common Code Adoption Drives Growth

Supporting the adoption of the most current editions of electrical and building codes in each state is imperative, especially as new technologies emerge and safety issues related to them need to be addressed. It is what drives the NEMA Task Force on State Code Adoptions.

Made up of NEMA Members, field representatives, and Government Relations staff, the task force began in 2012 to identify states moving from a three-year code adoption cycle to longer cycles. The initial effort was to preserve the code adoption cycle in states that were under attack from entities that did not recognize the implications of delayed adoption. By 2013, the task force had actively defended against efforts to delay code adoption in 10 states.

The initial activity was a defensive activity to ensure that NEMA Member products could be installed in accordance with their intended use and drive enhancements in safety that were addressed in the latest code provisions. The task force transitioned to

an offense position in 2014 with a goal to accelerate adoption. Typically, one-third of the states adopt the *National Electrical Code*® (NEC) during the first year and then one-third in the second, followed by the final third in the third year of adoption. The task force, participating NEMA Members, and coalition partners drove 25 states to adopt the 2014 NEC in 2014.

Today, we are driving adoption to ensure safety and encourage the use of emerging technologies. Innovation is instrumental not only to generating and delivering energy to vital operations but also enhancing the resilience of our electrical infrastructure and life safety provisions.

Having been involved with code adoption since 1999, I know our success in accelerating the adoption is unprecedented. NEMA played an important role in supporting the Coalition for Current Safety Codes, which was essential in supporting adoption in states where opposition existed.

**Alan Manche,**  
Vice President,  
External Affairs,  
Schneider Electric

Mr. Manche  
chairs the NEMA  
Task Force  
on State Code  
Adoptions.

*Continued on page 10*

## **Jeff Sargent, Senior Electrical Specialist, NFPA**

NEMA's collaboration with IAEL, IEC, IBEW, ICC, NECA, NFPA, UL, and other allies has been instrumental when special interests exerted considerable financial and political capital to extend the timeframe for adopting the NEC. Preserving the adoption cycle is solid public safety policy, promotes the implementation of new technologies like energy storage and direct-current microgrids, and expands applications of existing technologies such as solar photovoltaics and electric vehicle supply.

## **Robert Simon, Vice President of Product Marketing, Hubbell**

In a world where the speed of change is continually increasing, state legislative and builder communities should be conscious of the need for model code adoption that matches the pace of change. Extending adoption beyond three years could mean that newer equipment, including lighting controls, fuel cells, and battery technology, is installed without the benefit of referencing applicable codes.

## **Mike Stone, West Field Representative, NEMA**

The pace of change in the electroindustry is unprecedented. New technology is the strongest argument for adopting the most current codes, especially the NEC. The sentiment among some local building officials to delay or extend the adoption of codes comes down to what it costs in time and money to adopt new codes, purchase the code books, and train staff. This ignores the public value of adopting codes that address the safe installation of new technologies.

## **Sara Yerkes, Senior Vice President of Government Relations, International Code Council, and Co-Chair of the Coalition for Current Safety Codes**

NEMA's support in the 2011 Michigan battle, the first of its kind in the U.S., was the impetus for establishing the Coalition for Current Safety Codes. Staying current on building and safety requirements saves money for communities, building managers, and homeowners by facilitating lower insurance and mitigation costs, utility savings, overall building safety and longevity, and disaster prevention. ☺



## Who Are the Players?


ASHRAE 90.1	<i>Energy Standard for Buildings</i> published by the American Society of Heating, Refrigerating and Air-Conditioning Engineers
CCSC	Coalition for Current Safety Codes
IAEI	International Association of Electrical Inspectors
IBEW	International Brotherhood of Electrical Workers
ICC	International Code Council
IEC	Independent Electrical Contractors Inc.
IECC	International Energy Conservation Code
NAED	National Association of Electrical Distributors
NECA	National Electrical Contractors Association
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
UL	Underwriters Laboratories


Continued from page 9

## Educating the Industry

The team engages electrical professionals across the entire industry. They testify at hearings. Member CEOs call governors. The field representatives serve on state-appointed committees as manufacturer representatives to support code adoption and answer questions about products. NEMA and its Members' government relations staffs actively participate in legislative and gubernatorial meetings.

How does a common code support NEMA Members? It drives efficiency. Different codes may have different requirements and therefore different products; different products for each state place unnecessary burdens on manufacturing and distribution. A common code also permits the use of products based on innovation.

The adoption of codes is a regulatory activity, and state regulations will continue to be challenged. NEMA educates the industry and legislatures on keeping our citizens safe while enabling business to invest and grow. The sustained focus on this activity is core to NEMA and its Members' success. 

The Electrical Safety Foundation International (ESFI) is a proud supporter of the National Fire Protection Association's (NFPA) Fire Prevention Week, October 8–14, 2017. This year's theme is "Every Second Counts: Plan 2 Ways Out!" It reinforces the need for everyone to have an escape plan. ESFI provides resources to prevent home electrical fires. 



**FIRE PREVENTION**  
IT'S IN YOUR HANDS

From 2010 to 2014, the National Fire Protection Association estimated an average of **45,210 home fires** caused by **electrical failure** or **malfunction**, resulting in an estimated **420 deaths**, **1,370 injuries**, and **\$1.4 billion** in **property damage** each year.

**PREVENTION**

**15** The National Electrical Code has had **15** revisions since 1974, the year the average home was built. **Is your home adequately protected?**

**52%** of electrical fires are caused by an **arc or short circuit**.

**1999** Was your home built before **1999**? Call an electrician to ensure your home has **AFCIs**.

AFCI breakers and receptacles **protect** against arc faults and can **prevent** the majority of **electrical fires**.

Any electrical maintenance should be performed by **qualified electricians** to ensure proper **NEC** and fire prevention **standards**.

**EVERY SECOND COUNTS. PLAN 2 WAYS OUT.™** For more fire prevention tips visit **ESFI.org**

# NEC® Update: Design for SCCR

Changes in the 2017 *National Electrical Code* (NEC) have increased awareness of the proper application of equipment with regard to short-circuit current rating (SCCR). As NEC 2017 is adopted and enforced, original equipment manufacturers (OEMs) can expect customers, end users, inspectors, and contractors to become more aware of SCCR. The pressure is on to provide SCCR ratings that meet varying needs.

The proper alignment of equipment with specific application needs generally ensures safer working environments. For OEMs, SCCR means mastering the ability to pass fault current through a piece of equipment so that it operates safely and efficiently. But available current can vary due to the equipment's location within the electrical distribution system. Often, manufacturers do not know where the equipment they produce will be placed in a customer's facility.

It is difficult to fix inadequate SCCR once equipment has been installed. Long-term equipment maintenance also needs to be factored in. Electrical distribution system upgrades occur commonly today; these changes can inadvertently increase available fault current levels. Products that address such safety factors up front are better positioned to support longevity, which improves relationship-building and trust.

## 2017 NEC UPDATES

The NEC and the Occupational Safety and Health Administration (OSHA) require that electrical equipment provide sufficient protection against short-circuit current events:

- Section 409.22 of the NEC prohibits installing industrial control panels in locations where available fault currents exceed the equipment's assembly SCCR.
- 1910.303(b)(5) of the OSHA regulation requires that all electrical equipment (already installed or being installed) meet this requirement. Exemptions are not provided.

Under the 2017 NEC, OEMs need to calculate panel SCCR, address weak spots, and document ratings. Other important changes include updated rules for increased shock protection, product listing and suitability, arc-flash awareness, surge protection, and maintenance. The 2017 NEC has also expanded



marking or documentation of the available short-circuit current for various types of equipment at the location where the equipment is installed.

Avoid common mistakes by remembering three essential points: available fault current must always be less than or equal to the SCCR rating, don't confuse SCCR and interrupting ratings, and solving SCCR issues after an installation is complete should be avoided.

## SAFETY IS MANDATORY

Manufacturers must consider manufacturing equipment beyond low 5kA ratings. This imperative is very simply stated: safety is mandatory.

Inadequate short-circuit current protection may expose personnel to life-threatening dangers while also causing severe damage to equipment that results in costly repairs and downtime. Major hazards and safety risks include short-circuit shock, burns (via arc flash or contact with heated surfaces), injury associated with flying debris, damage to equipment or facility, arc blast (shock waves, shrapnel, etc.), and vaporized metal.

Equipment solutions that do not have SCCRs greater than 5kA can create safety situations at the installation that are difficult to solve when the available short-circuit current is greater than 5kA. OEMs must be vigilant about asking the right SCCR questions for the safety of the equipment they produce as well as for the safety and investments in their own facilities.

To optimize safety, compliance, and commissioning, partner with vendors who can provide a comprehensive list of SCCR protection options. These lists identify components quickly without adding the need to research or compare component ratings. Ⓢ

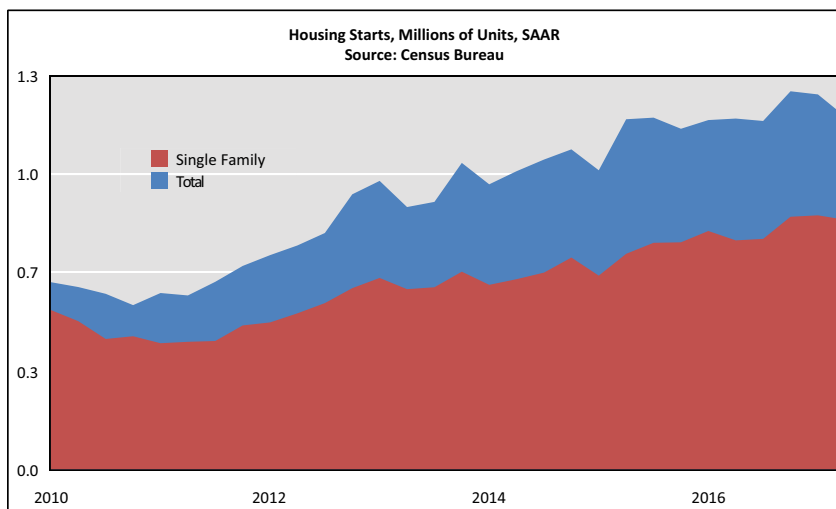
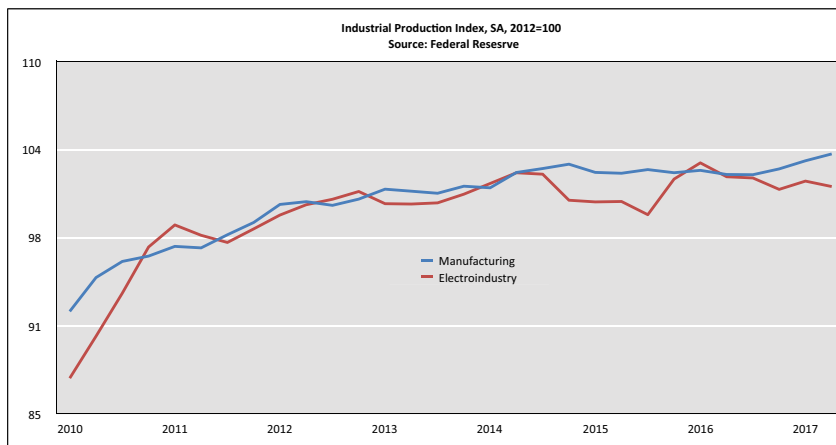
**Tom Domitrovich,**  
Vice President of  
Technical Sales,  
Eaton

Mr. Domitrovich  
chairs the NEMA  
task force to revise  
UL 1699.

## Electroindustry Emerges from Two-Year Contraction

The economic recovery, now eight years old, is the third longest in the post-war period and is likely to become the longest. The lasting effects of the recession continue to reverberate throughout many sectors of the economy.

Gross domestic product, the economy's broadest measure of growth, is nearly 18 percent higher than at the beginning of the recovery after adjusting for inflation since 2009. This equates to a modest 2.1 percent average annual rate of growth, the slowest recovery pace since World War II. Coinciding with sluggish growth is an ever-tightening labor market. The unemployment rate has fallen from a peak of 10 percent in October 2009 to 4.3 percent in the most recent June data, a level not seen since 2001.



### ECONOMIC INDICATORS

Despite this sustained economic recovery, the electroindustry has lagged the gains seen elsewhere in the economy. Some segments of the electroindustry, especially those feeding into the industrial sector, contracted in 2015 and 2016. At the same time, NEMA companies supplying the construction industry have faced an uneven and bumpy rebound from the steep contraction in construction during the recession.

As 2017 closes, both primary drivers for the electroindustry are likely to provide a modest lift through 2019.

### Industrial Production Poised for Rebound

During the early part of the recovery, manufacturing was a primary economic engine, propelled initially by strong export demand and later by a resurgent energy sector. A rising dollar, flagging global economies, and a collapsing energy sector caused key manufacturing segments, including electrical equipment, to contract in 2015 and 2016. The strong dollar caused net imports of electrical products such as switchgear, motors, and automation controls to surge as domestic manufacturers faced weaker global demand and domestic businesses imported cheaper foreign goods.

As all three of these forces have reversed course in 2017, the manufacturing sector has started to rebound. A key factor that will help to sustain manufacturing output will be an expected steady pace of solid consumer demand as the economy approaches full employment and wealth continues to increase beyond the pre-recession level.

### Housing Starts Struggle

Housing starts peaked in January 2016, 18 months before the start of the recession, at an annual pace of 2.27 million units. After bottoming in April 2009 at an annual pace of 478 thousand units, the housing construction recovery has been slowly gaining traction after an initial period of halting growth. Housing starts for the first half of 2017 were just over half the pre-recession peak. The weakness in the housing sector is not surprising given that it was an unsustainable surge in housing demand that culminated in a financial shock that precipitated the recession and a collapse of home prices and household formation.



In recent surveys, homebuilders have consistently cited increases in land and raw materials prices, as well as severe labor shortages, as major headwinds. Banks have also begun tightening lending standards, further constraining the housing sector. Despite these adverse factors, housing demand is slated to increase as household wealth surges into record territory and prospective homebuyers gain financial security with improved employment opportunities and rising wages.

### Nonresidential Construction Takes a Breather

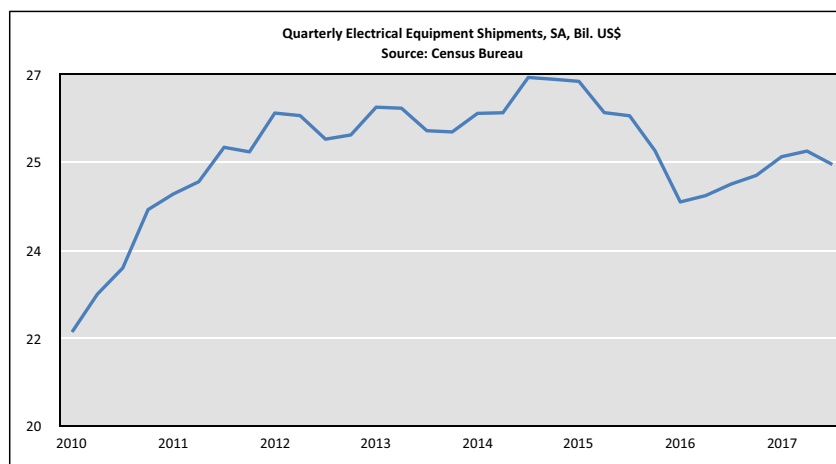
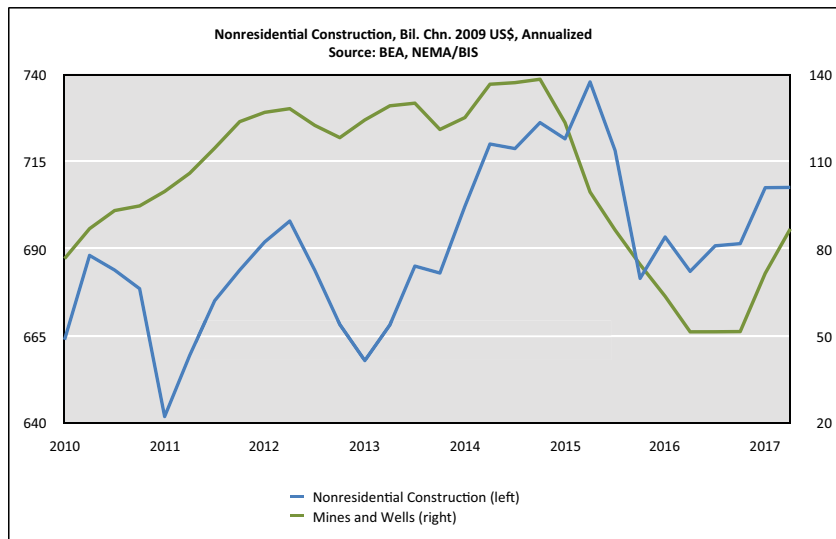
Overall nonresidential construction is expected to improve over the near term, riding the rebound from the energy sector, especially the extraction sector. Whipsawing oil sector investment in structures is once again expected to have an outsized impact on nonresidential construction. Meanwhile, following a robust 2016, construction outside the energy sector is projected to cool in 2017 before edging higher in 2018.

A potential boost in infrastructure spending could add to growth by 2019. Property developers have noted several factors constraining nonresidential construction growth, including rising materials costs such as copper and lumber. Labor costs are also rising, in part because many workers left the building industry during the recession. Moreover, the current focus on immigration restrictions may dampen future supply.

### Modest Improvement for Shipments

The electrical manufacturing sector is struggling to emerge from a protracted soft patch tied to the weakness in manufacturing and nonresidential construction. Data from the Census Bureau show the performance of three categories within the industry. Most notable from the report is the continued downward trend of core electrical equipment shipments, which includes transformers, motors, generators, switchgear, industrial controls, and low-voltage distribution equipment. Shipments from this sector were nearly 27 percent below pre-recession levels at the end of the first half of 2017.

The overall electroindustry has also faced a stubbornly high inventory to shipments ratio. With the growth of inventories outpacing shipments, the average since 2007 of 1.64 ballooned to 1.79 in June. Overall manufacturing has a ratio that has been steady near 1.38.



### FORECAST: IMPROVED CONDITIONS

Some of the headwinds plaguing the electroindustry in 2015 and 2016 have reversed course in recent months. The value of the dollar has fallen, global economic growth is on the rebound, and the energy sector has started its comeback.

Annual GDP growth between 2.0 and 2.5 percent is slated for 2017 through 2019, with nonresidential construction and manufacturing also expanding modestly. As a result, improvement in electrical equipment sales is likely over the forecast horizon. ☺

## Streamline the Regulatory Processes

To say it has been an interesting year in the regulatory world is an understatement. This update focuses on the agencies with whom we frequently engage: the U.S. Department of Energy (DOE), the Environmental Protection Agency (EPA), and the California Energy Commission (CEC).

### DEPARTMENT OF ENERGY

After a pause in regulatory activity, the DOE resumed numerous rulemaking proceedings and started several new ones. Many of the regulations under the DOE's purview have mandatory review and update requirements set by Congress. The DOE released a semiannual regulatory agenda in July that mentions standards or test procedures for many NEMA products, including electric motors, distribution transformers, several lighting products, and battery chargers.



Hampered by slow approvals of political appointees, the DOE has no new policymakers and no new policies to act on. Furthermore, while the new DOE leadership is researching ways to approach regulations using market-based considerations, there have been no formal publications or notices.

NEMA and other trade associations would like to influence how the department handles regulatory reviews. In the past, DOE activities seemed to have been predicated on the assumption that elevated standards or expanded product scopes were always justifiable. We disagree. We encourage DOE leadership to set policies and processes that identify where and how a determination to revise a standard can be justified.

### ENERGY STAR® FOR UPS

Despite early recommendations to defund it, the ENERGY STAR program continues to update and revise program guidance and specifications. It has been quiet for NEMA products, with several updates to lighting programs already underway or completed by the end of 2016. The program for uninterruptible power supplies (UPS) is due for an update, but the DOE rulemaking for UPS standards is not finished, so the EPA is waiting for that conclusion to know where the national minimum energy conservation standards level will be set.

The EPA continues to encourage participation in a pilot program for ENERGY STAR distribution transformers. NEMA continues to oppose the program. We believe that it will increase the cost of already expensive products without guaranteed energy savings as a result of the high variability of field conditions versus the static assumptions of the energy savings models used to justify the program.

### CALIFORNIA ENERGY COMMISSION

The CEC has been making steady progress on its energy regulations for Title 20 (appliances) and Title 24 (buildings). NEMA has been involved in the revisions to Title 24 since last year. Rulemaking proceedings are expected to resume this year. Title 20 is in an open rulemaking mode for administrative updates. An energy-saving rulemaking cycle will begin in 2018.



NEMA lobbyists continue to work with allied trade associations to push for legislation that will reform the Energy Policy and Conservation Act and in so doing declutter and streamline the regulatory process for several agencies. ☺



Megan A. Hayes

Director, Regulatory and Standards  
Strategy, MITA

## FDA Act: A Win for All Stakeholders

In August 2017, Congress passed the Food & Drug Administration Reauthorization Act of 2017 (FDARA), which reauthorizes various FDA user fee programs, including the Medical Device User Fee Amendments (MDUFA). This fourth reauthorization of MDUFA builds on the progress from the 2012 user fee agreement to further improve the FDA's device review process while maintaining its robust standards for patient safety.

MDUFA IV, negotiated between the FDA and the medical device industry in 2016, includes several process improvements that will enhance the predictability, consistency, transparency, and timeliness of the premarket review process, including reduction in 510(k) total time to clearance; pre-submission meeting metrics; inclusion of the basis for deficiencies in all deficiency letters and appropriate supervisory review; FDA quality management program and audits; independent assessment; and additional reporting metrics. It will also establish a conformity assessment program for accredited testing laboratories that evaluate medical devices according to FDA-recognized standards.

The legislation clarifies the FDA's authority to continue to consider and clear new indications for imaging device manufacturers while providing contrast agent manufacturers with incentives to update contrast agent labels for products that have previously been approved, which will help spur cutting-edge innovation for patients.

The legislation also calls for the FDA to produce a report on the quality and safety of devices with respect to servicing within 270 days of enactment. Currently, only medical device service activities performed by a manufacturer are regulated by the FDA. If a device fails to perform in a safe and effective manner because of improper servicing by an unregulated, third-party organization, it could potentially put the patient at risk for injury or result in a delayed or missed diagnosis.

FDARA is a win for all stakeholders: the FDA receives necessary funding, industry benefits from various programs and reduced time to decision, and patients have timely access to safe and effective medical devices. 📌



Scott A. Colburn

Director, FDA/CDRH Standards  
Program, Food and Drug  
Administration

## Consensus Standards Ease Regulatory Burdens

Voluntary consensus standards establish safety and performance criteria for medical device design and manufacturing. The Food and Drug Administration Modernization Act (FDAMA) of 1997, the 21st Century Cures Act of 2016, and amended section 514 of the Federal Food, Drug, and Cosmetic Act authorize the FDA to recognize voluntary consensus standards to support claims of safety and quality of technical information.

Sponsors may attest to which standards they conform in their premarket applications. However, the appropriate use of an FDA-recognized consensus standard has not been consistently applied. Part of this is because many standards are complex and require specialized knowledge to interpret and apply them.

This is a challenge for manufacturers and FDA review staff. During the Medical Device User Fee Act reauthorization negotiations, FDA and the industry agreed to establish the Accreditation Scheme for Conformity Assessment (ASCA) to recognize accredited testing laboratories that evaluate medical devices according to FDA-recognized standards.

This initiative will benefit sponsors who have tests conducted at recognized testing labs and submit to FDA a determination from the lab that their devices conform to the standards tested. Once developed, the ASCA will ease a regulatory burden on industry by allowing it to use recognized accredited testing laboratories to ensure conformance with consensus standards. 📌



## Driving Safety Home



Congressman Woodall (left) rides with Bryan Mulligan of Applied Information, Inc., to learn how technology can improve roadway safety. Photo by Bill Wells

Representative Rob Woodall (R-GA) visited NEMA Member Applied Information, Inc., to learn firsthand about a smartphone app that connects cars, people, traffic signals, and first responders and how that technology can reduce roadway deaths and injuries.

“The kind of innovation being done right here at home shows not only the ways in which technology can make our communities safer in the immediate future but also how our community is once again leading the charge in innovation,” said the congressman.

Rep. Woodall participated in a live demonstration of the app while riding in an autonomous vehicle with Bryan Mulligan, president of Applied Information.

“We are grateful that Representative Woodall took time from his busy schedule to see our efforts to improve roadway safety through the use of technology,” Mr. Mulligan said. “We believe that a connected world just works better and that if you give people solid, real-time information, they will use it to help keep themselves safe and, in turn, their communities safer.”

Congressman Woodall, who represents the Seventh District of Georgia, chairs the Rules Subcommittee on Legislative and Budget Process. He also serves on the Transportation & Infrastructure Committee and Budget Committee. ☎

Bill Wells

Director of Communications, Applied Information, Inc.

## Congressman Johnson Visits Acuity

Congressman Henry C. “Hank” Johnson Jr. (D-GA) toured the Acuity Brands 167,000-square-foot research and design facility in Decatur, Georgia, in September and met with the design team collaborating on next-generation lighting and controls products. The facility has a 0.47 watts per square-foot lighting footprint across the entire complex.

Representative Johnson represents the Fourth District of Georgia. A ranking member of the Transportation & Infrastructure Subcommittee on Economic Development, Public Buildings and Emergency Management, he is involved in the management of emergencies and natural disasters, including oversight of the Federal Emergency Management Agency (FEMA). ☎



Representative Johnson (center) met with design team members (from left) Benjamin Grindle, product market manager; Jeff Quinlan, vice president of engineering; and Mark Hand, vice president of engineering at Acuity’s extensive testing and lab facilities. Photo by Tanya T. Hernandez

Tanya T. Hernandez

Director, Government and Industry Relations, Acuity

## Model Energy Code Adoptions Contribute to Efficiency

The adoption of model energy codes presents a significant opportunity to save energy in residential and commercial buildings.

On July 25, 2017, the U.S. Department of Energy (DOE) issued a preliminary determination that ASHRAE 90.1-2016 would achieve greater energy efficiency in buildings subject to it. The DOE estimates national savings in commercial buildings of approximately 8.2 percent for energy cost, 7.9 percent for source energy, and 6.7 percent for site energy.

In 2015, the DOE issued a determination that the 2015 International Energy Conservation Code (IECC) would achieve greater energy efficiency in buildings subject to it. It estimated savings in residential buildings of approximately 0.73 percent for energy cost, 0.87 percent for source energy, and 0.98 percent for site energy.

The DOE tracks these benchmarks to determine overall effectiveness.

Nearly every state in the South has adopted, or is in the process of adopting, an updated state energy code. Florida, Georgia, North Carolina, and Virginia are currently in the energy code update process. ☎

State	Residential	Commercial
Alabama	2015 IECC	ASHRAE 90.1-2013
Florida	2012 IECC	ASHRAE 90.1-2010
Georgia	2009 IECC	ASHRAE 90.1-2007
Louisiana	2009 IECC	ASHRAE 90.1-2007
Mississippi	Not Adopted	ASHRAE 90.1-2010
North Carolina	2009 IECC	ASHRAE 90.1-2007
Oklahoma	2009 IRC	2006 IECC
South Carolina	2009 IECC	ASHRAE 90.1-2007
Tennessee	2009 IECC	2006 IECC
Texas	2015 IECC	ASHRAE 90.1-2013
Virginia	2012 IECC	ASHRAE 90.1-2007



### Karen Willis

Senior Lighting Program Manager,  
NEMA

## Standards Drive the Lighting Industry

Several years ago, as the lighting industry moved toward smart products with light-emitting diode (LED) technology in the driver's seat, NEMA formed the ANSI Accredited Standards Committee (ASC) C137 for Lighting Systems. NEMA Members—and the industry in general—understood the need to champion standards for lighting systems, not just component devices.

The ANSI C137 Lighting Systems Committee has prioritized multiple projects. It is writing a terms and definitions document and is developing standards for 0–10V dimming systems, cybersecurity for parking lot lighting systems, networked parking lot lighting systems, and LED driver communications. Other activities include collecting end-user data for energy measurement and reviewing current lighting system data models for standardization. The committee's first standard, ANSI C137.3-2017 *American National Standard for Lighting Systems Minimum Requirements for Installation of Energy Efficient Power over Ethernet (PoE) Lighting Systems*, was published in June.

The ANSI process, based on openness, balance, and consensus, ensures that approved standards are representative of the industry as a whole. Although the lighting industry continues to face challenges with interoperability and interchangeability of connected products, lighting systems standards that set minimum requirements and descriptions, while still allowing product differentiation, are the route to high-quality, efficient, and consumer-friendly lighting systems.

The ANSI C137 committee is open to all materially affected and interested parties. To achieve and maintain balance, the committee is actively seeking additional members in the user and general interest membership categories. Contact Karen Willis at [karen.willis@nema.org](mailto:karen.willis@nema.org). ☎



ANSI C137.3 specifies the minimum requirements for installation of power over Ethernet lighting systems to ensure minimal energy losses. Photo courtesy of Leviton

## Muhammad Ali Elected to SES Board

NEMA Program Manager Muhammad Ali was elected to serve on the Society for Standards Professionals (SES) Board of Directors. He began his term as membership council director in August at the Annual SES Conference.


Mr. Ali, who earned SES's associate standards professional certification, was also one of the judges for the 2017 World Standards Day Paper Competition. This year's theme is Smart Health: Using Intelligent Systems to Improve the Quality and Delivery of Health Care in a More Integrated, Focused Approach. 

## A New Look for ISO/IEC 17025

The International Organization for Standardization (ISO) and the Committee on Conformity Assessment (CASCO) maintain ISO/IEC 17025 *General requirements for the competence of testing and calibration laboratories* through Working Group (WG) 44. ISO/IEC 17025:2005 was reviewed and reaffirmed in 2010. WG 44 started a 36-month review and approval cycle for the current revision in September 2014. It is expected to be published this year.

ISO/IEC 17025 implements a strong laboratory management system to which third-party testing laboratories and manufacturing laboratories

comply to be accredited. Some of the benefits of accredited labs include global market access, reliable and accurate test or calibration results, mature quality systems, and demonstrated technical competence.

The document has been restructured to improve the layout and become more user-friendly. Language, definitions, general requirements, and clauses have been added. The annexes on nominal cross-references to ISO 9001:2000 and guidelines for establishing applications for specific fields have been replaced by ones on metrological traceability and the management system. 

### Recently Published Standards

**ANSI C82.4-2017** *American National Standard for Lamp Ballasts—Ballasts for High-Intensity-Discharge and Low-Pressure Sodium Lamps* (\$147)


**ANSI C82.17-2017** *American National Standard for Lamp Ballasts—High Frequency (HF) Electronic Ballasts for Metal Halide Lamps* (\$65)

**ANSI C136.11-2011 (R2016)** *American National Standard for Roadway and Area Lighting Equipment—Multiple Parallel Wired Sockets* (\$42)

**ANSI C136.19-2017** *American National Standard for Roadway and Area Lighting*

*Equipment—High-Pressure Sodium (HPS) and Retrofit HPS Lamps for Mercury Ballasts—Guide for Selection* (\$42)

**NEMA LSD 76-2017** *White Paper on the Usage of LED Lamps in Emergency Lighting Systems Having Remote Capacity* (no-cost electronic download)

**NEMA/MITA WP 1-2017** *Computed Tomography Image Quality (CTIQ): Low-Contrast Detectability (LCD) Assessment When Using Dose Reduction Technology* (no-cost electronic download) 

Ann Brandstadter, Manager,  
Standards Publications and Marketing, NEMA

## SPOTLIGHT



Muhammad Ali, Program Manager, NEMA

## I Am NEMA

As program manager in NEMA's Commercial Products Division, I manage the technical activities in the Conduit Fittings, Cable Ties, Outlet and Switch Box, Polymer Raceway Products, Enclosures, Low Voltage Surge Protective Devices, and Fuse Sections.

I enjoy working with NEMA Members on safety and standards projects that make safe products safer every day. Having been involved with codes and standards for almost five years, I take pride in representing our industry at regional and international venues. I will be leading the webinar series for the 2018 NEMA Strategic Initiative on the Internet of Things.

I am glad to be part of the NEMA family. 



Mary Shaw

Director of eBusiness  
Standards, IDEA

Maya Brown

Intern, IDEA

INTERNATIONAL

## IDEA Commits to International Standards

The Industry Data Exchange Association (IDEA) supports ETIM International (<https://www.etim-international.com>), the governing body of the European Technical Information Model (ETIM), a classification standard that promotes international e-commerce for electrical products in Europe and enables electronic data exchange between manufacturers, wholesalers, and contractors.

The long-term goal of ETIM International is to promote ETIM as a primary technical information model. In October 2015, IDEA became the first non-European member of ETIM International, and it is the convening body for the ETIM North America working group. ETIM NA is for the United States and Canada—and eventually Mexico.

At the recent ETIM meetings, representatives decided to incorporate imperial measures into the

model, complementing the metric standard used in parts of North America. Imperial measurements will be available in version 7.0, which will be released this fall. Representatives also agreed to modify the organizational model to accommodate the growing number of countries. As a result, backing for ETIM can be provided by the North American committee under IDEA.

The committee will finalize an English translation of ETIM and will create decision trees for product groups that manufacturers can use to assign appropriate ETIM classes, features, and values to their products. A map will be developed between the ETIM North American translation and the United Nations Standard Products and Services Codes that are currently used by IDEA's Industry Data Warehouse (IDW).

For more information, contact Mary Shaw ([mshaw@idea4industry.com](mailto:mshaw@idea4industry.com)). ☎

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## Respondents Cite Uncertainty as Indexes Rebound

	Current Conditions (Compared to Previous Month)		Conditions Six Months from Now (Compared to Current Conditions)	
EBCI	65.6	▲	62.5	▲
% Better	44%	▲	44%	▲
% Worse	13%	▼	19%	▼
% Unchanged	44%	▼	38%	▲

The Electroindustry Business Conditions Index (EBCI) rebounded 12.3 points in August to 65.6, erasing the previous month's decline, although the August reading is still 10.9 points below the high of 76.5 reached in March. The EBCI is based on the results of a monthly survey of senior managers at NEMA Member companies and is designed to gauge the business environment of the electroindustry in the United States and Canada.

The stronger reading resulted from a larger proportion of respondents that reported better conditions. The share of panel members that noted worsening conditions remained flat at 13 percent. Meanwhile, 44 percent responded that conditions were unchanged in August, compared to 67 percent in July.

Visit [www.nema.org/ebci](http://www.nema.org/ebci) for the complete August report. 📄

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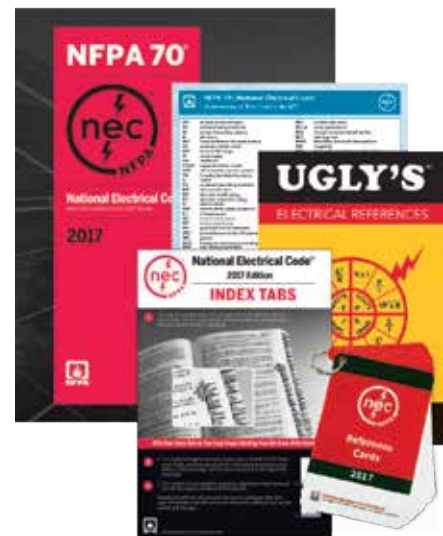
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