Issue: Smart Grid
Smart Grid is a top priority for federal and state policymakers, with NEMA members’ technologies playing a prominent role in this effort. A modern – or “smart” – grid enables system operators to better monitor and control operations, allows utilities to improve grid reliability and restoration/response after a major storm or natural disaster, be more effective at integrating new and diverse supply and demand side resources, and provides consumers with meaningful energy usage information, price signals and solutions to more efficiently manage their energy use. Key smart grid functionalities include: advanced metering infrastructure; distribution automation (DA); asset optimization; wide area monitoring; and load management.

Position:
Support development of alternative regulatory models, including performance-based regulation, that promote innovative and cost-effective investment in grid modernization including investment beyond the meter. Such models should:

- Provide certainty, timeliness, and equality for cost recovery involving demand and supply side investments;
- Promote a balanced approach where utilities are given the flexibility to make decisions on how to achieve set performance goals (with the opportunity to receive performance incentives for achieving their goals and corresponding penalties for not meeting them); while at the same time ensuring adequate safety mechanisms, such as spending caps, are in place for all ratepayers; and
- Include quantifiable, output-based performance targets related to energy efficiency, demand response, and reliability.

Promote utility investment in advanced technologies to improve resource utilization and asset optimization in order to defer unnecessary capacity additions. State regulators can encourage these investments by implementing the following measures:

- Inclusion of system-level efficiency improvements such as conservation voltage reduction and active line-loss management in state Energy Efficiency Resource Standards, portfolios, or targets;
- Cost recovery for associated programmatic and capital costs;
- Mechanisms such as decoupling or lost revenue adjustments to ensure utilities fully recover fixed costs;
- Shareholder incentives to ensure that these programs are at least as attractive as traditional supply-side investments;
- Dynamic line ratings and voltage conservation and optimization systems to defer capital investment and increase transmission reliability and utilization;
- Energy storage that improve grid operations and reliability; and
- Microgrid development to ensure energy supply to critical loads.

Empower all consumers to actively manage energy usage by offering time-varying rate that are actionable and tied to wholesale market prices (where applicable) by ensuring access to control technology.
Continue emphasis on improving grid cyber security via effective coordination between utilities, vendors, and federal/state agencies covering technology and processes.

Direct utilities to demonstrate plans for achieving interoperability in smart grid roadmaps, prudence reviews, rate cases, and other regulatory filings related to smart grid capital investments. Where appropriate, regulators should also consider targeted incentives, such as bonus rates of return, for utility investments that utilize the Smart Grid Interoperability Panel (SGIP) catalog of standards.

**Importance:**
The current infrastructure has served us well, but has not always kept pace with the development of new technology and the growing demand for electricity. In addition, recent events such as Superstorm Sandy serve as reminder that the grid is vulnerable to both man-made and naturally occurring events. Smart Grid represents a concerted effort by all stakeholders to improve the functionality, reliability and resiliency of our nation’s electrical infrastructure and optimize total electrical system through the integration of utility and customer resources.

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NEMA is the association of electrical equipment and medical imaging manufacturers, founded in 1926 and headquartered in Arlington, Virginia. Its 400-plus member companies manufacture a diverse set of products including power transmission and distribution equipment, lighting systems, factory automation and control systems, and medical diagnostic imaging systems. The U.S. electroindustry accounts for more than 7,000 manufacturing facilities, nearly 400,000 workers, and over $100 billion in total U.S. shipments.