

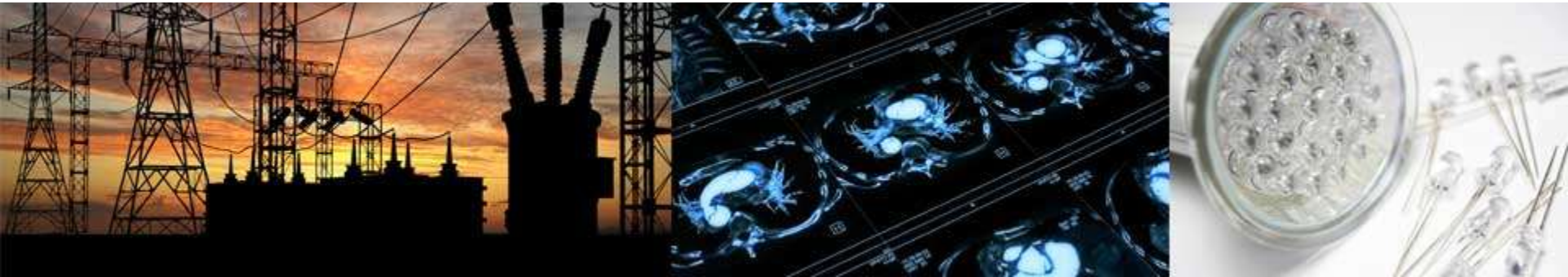
# How to Prepare for Disasters and Rebuild Stronger After Them

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The Association of Electrical Equipment and Medical Imaging Manufacturers





# Resilience in Public Facilities

- Electricity is essential to our lives, and more so in an emergency
  - Hospitals
  - Nursing Homes
  - First Responders
  - Communications
  - Grocery Stores/Refrigeration
  - Gas Stations
  - Mass Transit
  - Financial Institutions
  - Water and Sewage Treatment



# How to Keep Electrons Flowing

- Smart Grid Solutions
- Microgrids
- Energy Storage
- Distributed/Backup Generation
- Water-Resistant Wiring and Components
- Relocating Equipment
- Disaster Recovery Planning



# Smart Grid Solutions

- **Technologies**

- Smart Meters
- Advanced Sensors
- Reclosers/Circuit Breakers

- **Functionality**

- Fault Location, Isolation, and Service Restoration (FLISR)
- Demand Response





# Microgrids

- Disconnect from the grid during a disaster to keep power flowing to critical loads





# Energy Storage

- Backup power
- Reduce strain on grid during outages and startup
- Black start







# Distributed/Backup Generation

- On-site generators can ensure reliable power supply during emergencies if they are properly sited and maintained
- During Sandy, some diesel pumps flooded, leaving generators without fuel





# Water-Resistant Wiring and Components

- The New Jersey Seaside Park boardwalk fire was caused by saltwater-damaged wire, a year after Superstorm Sandy
- Radiolab story, “Playing God”







# Relocating Equipment

- Flooded basements can prevent generators and fuel pumps from functioning and can short-circuit other electrical equipment





# Disaster Recovery Planning

- Restore critical services first
- Inspect electrical systems before re-energizing
- Conduct a pre-crisis risk mitigation audit
- Train facility managers
- Know where you can get replacement equipment and certified technicians
- Plan for the failure of communication systems
- Install surge protection, arc-fault protection, and ground-fault protection to reduce risk of equipment damage, fire, and electrocution
- Upgrade equipment when replacing it



# For More Information

Download the NEMA storm reconstruction guide:

[www.nema.org/storm-reconstruction](http://www.nema.org/storm-reconstruction)

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