



Understanding the Electric Power Industry's Mutual Assistance Network

Electricity is a crucial product that we all take for granted. We scarcely think about it, unless we don't have it. Today, our high-technology society demands electricity to power nearly all new products that come to market. As a result, the typical U.S. home now has, on average, almost 25 electronic products—99 percent of which must be plugged in or recharged.¹

Because electricity plays such an important role in our everyday lives, we rely on electric utilities to provide a reliable supply of on-demand power. Utilities constantly plan for emergency situations that could impact their ability to generate and/or deliver this power. And, overall, the industry has a strong track record of maintaining high levels of reliability.

At times, however, hurricanes, earthquakes, storms, and other natural disasters occur that cause significant damage to the electric grid, creating widespread power outages. Following these events, electric utilities must respond safely, swiftly, and efficiently to restore service to large numbers of affected customers. In these cases, utilities often turn to the industry's mutual assistance network. The mutual assistance network—a voluntary partnership of electric utilities from across the country—leverages the strength, skills, and numbers of participating utilities to help restore power efficiently during an emergency situation.

Following are frequently asked questions about the industry's mutual assistance network and the steps the industry is taking to enhance service reliability and restoration efforts.

For more information, visit the Edison Electric Institute's Web site at www.eei.org.

¹ U.S. Department of Energy, Energy Information Administration, *Residential Energy Consumption Survey*, March 2011.

How do electric utilities prepare for storms and other weather-related events?

Electric utilities' storm restoration and business continuity planning includes year-round preparation for all types of emergencies, including storms and other weather-related events. For example, utilities conduct exercises and drills to prepare them to respond to severe outages—whether caused by an expected storm or by a natural disaster, such as an earthquake, that occurs without warning.

Restoring power after a major storm or natural disaster is a complex task that must be completed as safely and efficiently as possible. A speedy restoration process requires significant logistical expertise, along with skilled workers and specialized equipment. Electric utilities begin their preparation for weather-related events long before an event actually occurs, with organization-wide plans that involve virtually all employees. When a major storm or natural disaster is expected, electric utilities begin their standard preparations to organize crews, trucks, and equipment.

As illustrated on page 3, a utility's storm restoration plan focuses on restoring power to the greatest number of customers safely and as quickly as possible. This typically means that a utility will first assess affected power plants, transmission lines, and substations to determine the extent of any damage. Power is then restored to critical facilities, such as hospitals, police and fire stations, water and water-treatment facilities, and nursing homes; main thoroughfares that host supermarkets, gas stations, and other essential community services; and, finally, individual neighborhoods.

As a storm approaches, a utility's command center serves as the nucleus of its operations, communicating restoration and logistics planning 24 hours a day until all customers have their electricity service restored.

What is the mutual assistance network?

The mutual assistance network is a voluntary partnership of electric utilities across the country that is committed to helping restore power whenever and wherever assistance is needed. Created decades ago, the mutual assistance network provides a formal, yet flexible, process for utilities to request support from other utilities in parts of the country that have not been affected by major storm events.

Mutual assistance is an essential part of the electric power industry's service restoration process and contingency planning. Electric utilities impacted by a major outage event are able to increase the size of their workforce by "borrowing" crews from other utilities. When called upon, a utility will send skilled line workers—both utility employees and contractors—along with specialized equipment to help with the restoration efforts of a fellow utility.

The mutual assistance network is a cornerstone of electric utility operations during emergencies.

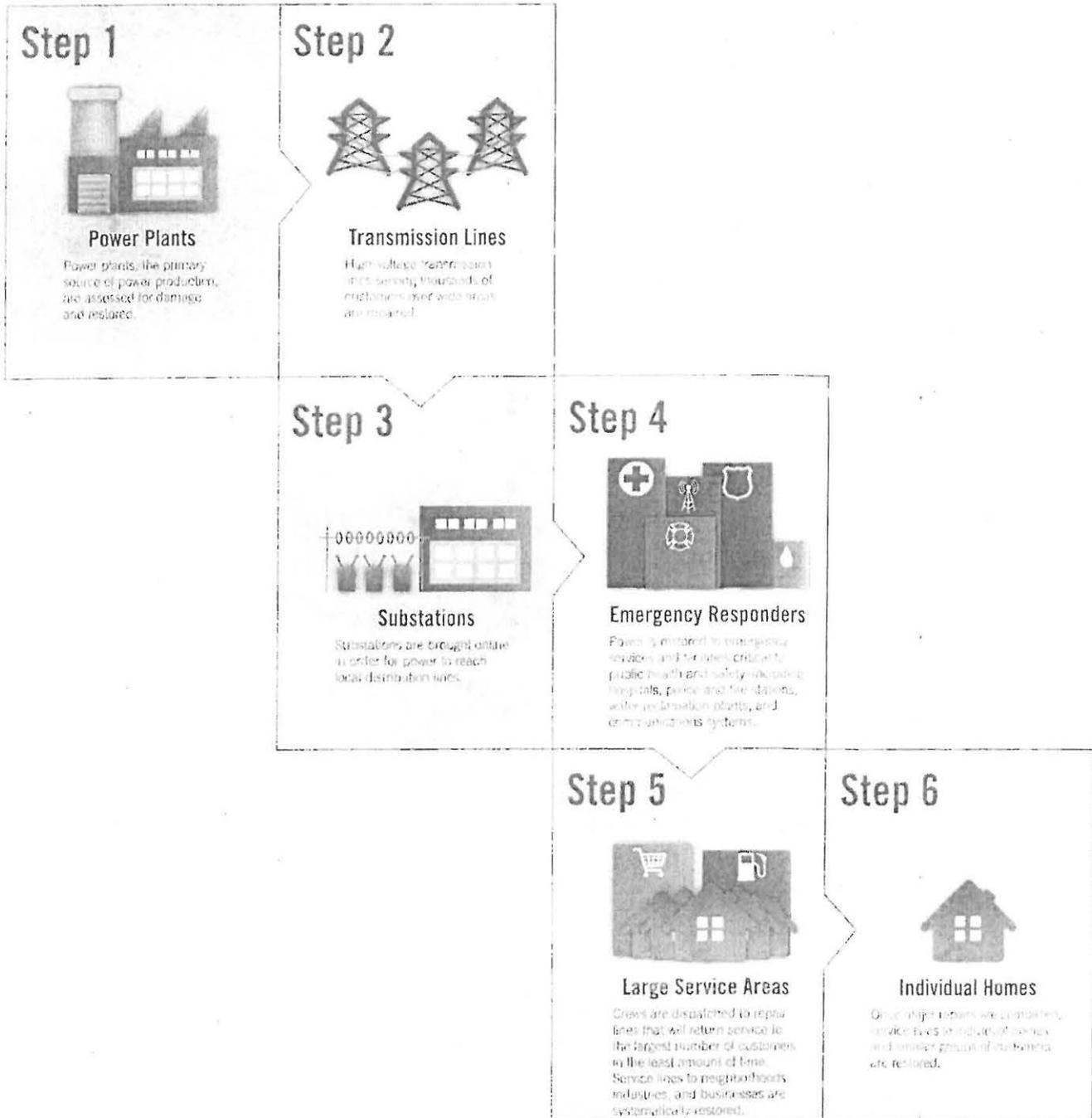
How does mutual assistance work?

Partnerships in the mutual assistance network are based upon voluntary agreements among electric utilities within the same region. Most of these agreements are managed by Regional Mutual Assistance Groups (RMAGs) throughout the country. When a utility determines that it needs restoration assistance, it initiates a request through an RMAG. (Utilities in the western states coordinate responses directly with each other, rather than through an RMAG.)

RMAGs facilitate the process of identifying available crews, and help utilities coordinate the logistics and personnel involved in restoration efforts. For example, RMAGs can help utilities locate specialized skill sets, equipment, or materials, and can assist in identifying other types of resources that may be needed, including line crews, tree trimmers, damage assessors, and even call center support.

The Storm Restoration Process

Every electric utility has a detailed plan for restoring electricity after a storm. Typically, one of the first steps a utility takes—to prevent injuries and fires—is to make sure that power is no longer flowing through downed lines. Restoration then proceeds based on established priorities.



Utility crews involved in mutual assistance typically travel many miles to areas stricken by severe weather or natural disaster events to help the requesting utility to rebuild power lines, replace poles, and restore power for customers. Before their restoration work begins, the volunteer crews receive any necessary safety training and an overview of the affected facilities from the host electric utility.

How are the RMAGs organized?

RMAGs are organized geographically to meet the needs of electric utilities during emergency situations most effectively. Although participation is voluntary, each utility in an RMAG has committed, when possible, to send its line workers, contractors, and specialized equipment to help other utilities in the network when called upon to do so. If needed, utilities in one RMAG will assist those in another region. By sharing resources among utilities, the RMAGs help to mitigate the risks and costs related to restoring power following major outages. Together, the RMAGs enable a consistent, unified response to emergency events that result in a significant loss of power.

How do RMAGs help to maintain electric reliability throughout the country during a major restoration effort?

RMAGs develop contingency plans to ensure that the transfer of resources from one electric utility or region to another has a minimal effect on a regional area if an unexpected event occurs within the service areas of assisting utilities. Contingency plans are developed according to the amount of resources—both crews and equipment—being transferred either to a region or to a larger geographic area.

What are the key goals of the mutual assistance network?

The mutual assistance network serves as an effective—and critical—restoration resource for electric utilities because of its unique structure: it is both flexible and voluntary, empowering the network to respond quickly to the unpredictable nature of weather, while also recognizing that any one utility may be limited in its ability to provide resources at a given point in time.

While a primary goal of the mutual assistance network is to restore electric service in a safe, effective, and efficient manner, the network also serves additional objectives that benefit the entire electric power industry. The mutual assistance network:

- ▶ Promotes the safety of employees and customers;
- ▶ Develops strong relationships among electric utilities;
- ▶ Provides a means for electric utilities to receive competent, trained employees and contractors from other experienced utilities;
- ▶ Provides a predefined mechanism to share industry resources expeditiously;
- ▶ Mitigates the risks and costs of member utilities related to major incidents;
- ▶ Proactively improves resource sharing during emergency conditions;
- ▶ Shares best practices and technologies that help the electric power industry improve its ability to prepare for, and respond to, emergencies;
- ▶ Promotes and strengthens communication among RMAGs; and
- ▶ Enables a consistent, unified response to emergency events.

What have been some of the largest mutual assistance responses?

When Hurricane Katrina hit the Gulf of Mexico in August 2005, it damaged almost an entire 400-mile section of coastline from central Louisiana, across Mississippi, and into Alabama and western Florida, and destroyed much of the electric power grid in the area. More than 46,000 electric utility workers and contractors from around the country travelled to the Gulf Coast to help the local electric utilities with their monumental electric restoration effort.

More recently, in August 2011, Hurricane Irene made landfall on the East Coast, leaving approximately nine million customers without power. Nearly 50,000 electric utility line workers and crews from as far away as the West Coast and Canada assisted with the restoration efforts in 14 states and the District of Columbia. In addition, many more employees—including damage assessors, tree trimmers, logistics support, transportation, and security personnel—from both assisting and affected utilities participated in the restoration effort.

What are electric utilities doing to strengthen the mutual assistance network?

The electric power industry is committed to strengthening its preparations for, and response to, emergency events that threaten electric service. After a major storm restoration effort has been completed, RMAGs conduct self-assessments and share best practices and information about new technology advancements in restoration processes.

In addition, electric utilities, contractors, and vendors that provide support or services during outage events meet annually to discuss the outage events that have taken place over the past year; to share lessons learned when responding to storms; and to allow restoration managers to learn about technologies and products that could assist them during future weather-related events.

How will the smart grid help electric utilities provide more reliable service?

Electric utilities are modernizing the electric grid to meet the growing demands of our digital society. By incorporating telecommunications and information technology into utility operations, the smart grid provides a platform for new technologies to deliver key benefits for electric utilities and their customers, including more reliable electric service.

The intelligent technologies powering the smart grid will provide electric utilities with near real-time information about the electricity flowing across the system. These technologies could enable electric utilities to identify and correct potential problems before they occur. In some cases, the grid's intelligent technology systems may determine how best to respond to a situation.

What is the role of the states during power restoration efforts?

The states and electric utilities should continue to work in coordination, and with other first responders, to ensure a flexible approach to storms and other events that lead to widespread power outages. A timely restoration effort requires a smooth transition of resources from other regions into the affected area, regardless of the state boundary. Company service territories often extend beyond state boundaries, and restoration work often involves multiple jurisdictions. Having flexibility to move resources to the outage location is key to successfully completing a restoration.

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March 2012