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**NARUC**

The National  
Association  
of Regulatory  
Utility  
Commissioners

## Technical Assistance Briefs: Regional Coordination and Intergovernmental Communication in the Energy Sector

Prepared by  
The Institute of Public Utilities

April 2005

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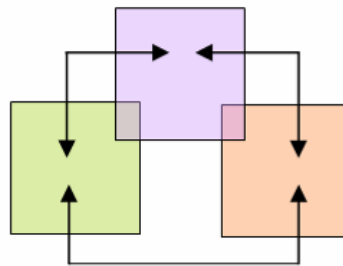
**TECHNICAL ASSISTANCE BRIEF ON  
CRITICAL INFRASTRUCTURE PROTECTION**

**REGIONAL COORDINATION AND  
INTERGOVERNMENTAL COMMUNICATION  
IN THE ENERGY SECTOR**

NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS  
AD HOC COMMITTEE ON CRITICAL INFRASTRUCTURE

APRIL 2005

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**NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS  
AD HOC COMMITTEE ON CRITICAL INFRASTRUCTURE**

*Letter from the Chair*

Commissioner Connie O. Hughes, New Jersey Board of Public Utilities  
March 2005

As Chair of the NARUC Ad Hoc Committee on Critical Infrastructure, I am proud to present landmark series of reports to public utility regulators, policymakers, utility industry leaders, as well as consumers on issues surrounding complex issues pertaining to our Nation's utility critical infrastructures. These documents set strategies for consideration for future potential challenges within the utility sectors.

I trust that these documents will assist and provide better understanding and greater knowledge on the complex issues and components related to critical infrastructure protection.

The Committee appreciates and is grateful for the assistance in preparing these reports by Dr. Janice A. Beecher, Institute of Public Utilities at Michigan State University and Dr. James B. Atkins, Regulatory Heuristics. I also acknowledge the support and funding provided by the U.S. Department of Energy's Office of Electricity and Energy Assurance under the leadership of Alex de Alvarez and assistance of Alice Lippert. I also thank the National Association of Regulatory Commissioners, the NARUC Staff Subcommittee on Critical Infrastructure and other state partners including the National Association of State Energy Officials, the National Conference of State Legislatures and the National Governors Association.

Commissioner Connie O. Hughes  
Chair, Ad Hoc Committee on Critical Infrastructure

This Technical Brief (Paper No. 5) is part of a series of reports prepared under the direction of the Ad Hoc Committee on Critical Infrastructure of the National Association of Regulatory Utility Commissioners. Funding for this project was provided to NARUC by the U.S. Department of Energy in cooperation with the National Association of State Energy Officials

The purpose of these papers is to provide public utility regulators and other participants in the regulatory policy community with introductory overviews, suggested protocols, and additional resources on critical infrastructure protection issues. The papers, identified below, are meant to be complementary and reinforcing.

Paper 1. *Issue Paper on Critical Infrastructure Protection.* The federal and state roles in critical infrastructure protection are introduced and explored, with a special focus on the role of the state agencies and public utility commissions in particular.

Paper 2. *Utility and Network Interdependencies: What State Regulators Need to Know.* As explored here, almost all utilities operate networks, and these sector networks are highly interdependent, which in turn relates to consideration of vulnerability and planning which takes on an added dimension of complexity needs, as well as regulatory considerations.

Paper 3. *A Primer on Energy Assurance for Public Utility Commissions.* The primer provides an introduction to energy assurance planning, which broadens traditional energy emergency response and planning to include critical infrastructure protection and energy and fuel shortage mitigation

Paper 4. *State Government Organizational Issues, Roles, and Policy.* This discussion paper explores state governmental roles with respect to critical infrastructure protection, with a focus on the state public utility commissions and regulatory policy considerations.

Paper 5. *Regional Coordination and Intergovernmental Communication in the Energy Sector.* This paper explores the regional nature of utility networks and the importance of coordination and communication, focusing in particular on the protocols developed for the Energy Emergency Assurance Coordinators (EEAC) system that has identified state level energy experts for petroleum, natural gas and electricity.

Paper 6. *Critical Infrastructure Information Sharing Rules: Model Protocols for States.* The purpose of this paper is to discuss both federal and state actions to date regarding the sharing of CI information, and to provide a framework for future cooperation and efforts to harmonize CI information sharing between State Commissions, the FERC and the Department of Homeland Security.

Paper 7. *NARUC Inventory on State Energy Assurance Planning.* The paper reports in detail the finding of a 2004 assessment of state commissions regarding energy assurance planning and related policy issues.

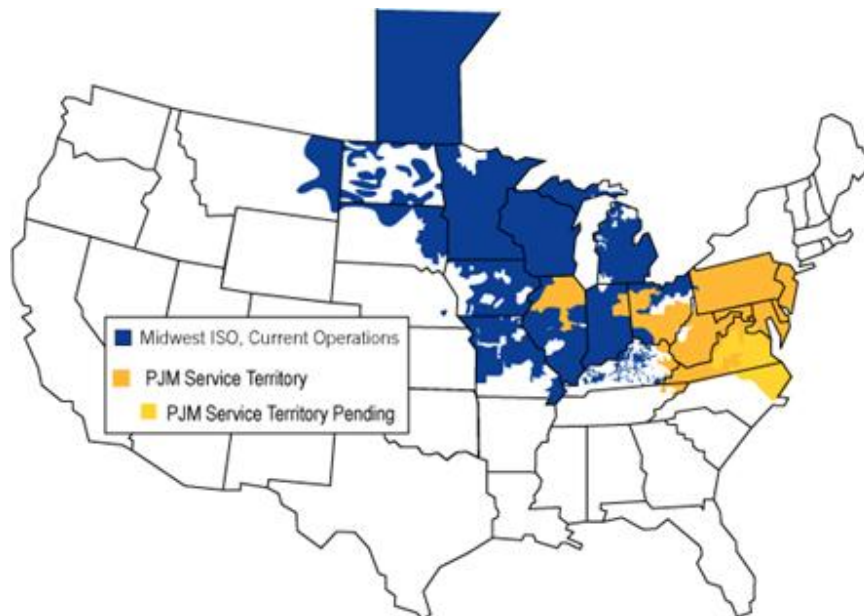
Paper 8. *NARUC Inventory on Gas Curtailment Planning.* The paper reports in detail the finding of a 2004 assessment of state commissions regarding gas curtailment planning and related policy issues.

## REGIONAL COORDINATION

Utility services typically are provided by network industries that enjoy scale economies and therefore often are enfranchised for large service territories. In the energy sector of the past, many vertically integrated utilities operated on an intrastate basis; today, regional markets connect multiple suppliers to multiple distributors. Large distribution systems are often, and transmission systems are almost always, regional in character. The telecommunications sector is essentially comprised of layers of networks, defined in terms of both geography and technology.

The regions served by public utilities may be intrastate or interstate. States within a region may or may not share borders. Industry restructuring, corporate consolidations, and the evolution of transmission networks have contributed to the further regionalization of the utility sectors (for an illustration, see Exhibit 1). The regional character of utilities is very relevant to the understanding of interdependencies among interconnected utilities providing the same service, as well as the interdependencies among all utilities and the networks by which they are interconnected. Catastrophic outages, such as the 2003 power blackout, are often regional in scope.

In the context of promoting homeland security and ensuring critical infrastructure protection, regional perspectives are increasingly essential; conversely, failure to develop regional strategies can undermine policies related to reliability, as well as security. State public utility commissions, along with other state agencies (such as state energy and homeland security offices), can implement a number of protocols to enhance regional coordination.



**Exhibit 1. Midwest ISO-PJM Service Territories.**

Although the federal government is supportive, and local governments are clearly affected, the responsibility and capability for coordinating protection of critical utility infrastructures on a regional basis falls to the states. This paper focuses in particular on regional coordination and intergovernmental communications for the energy sector.

## REGIONAL GOVERNANCE

The U.S. federal system combines federal and state sovereignty, bounded by the supremacy and interstate commerce clauses of the Constitution, as well as the 10<sup>th</sup> Amendment reserving powers to the states. The nation’s prolific local governments derive their authority and police powers from the states. Comparatively, Canada’s provincial governments are more broadly regional in coverage.

The Federal Emergency Management Agency (FEMA), like other federal agencies, identifies and operates within designated regions in the U.S. (Exhibit 2). Formal regional governance or regulation occur on a relatively limited basis. Notable examples are the river basin commissions, formed via interstate compact, with the federal consent by act of Congress. One of the more well-established is the [Delaware River Basin Commission](#), which has substantial preemptive authority over water systems operating in the basin. Another example in the water sector is the eight-state and bi-national [Great Lakes Commission](#).



Exhibit 2. Regions of the Federal Emergency Management Agency.

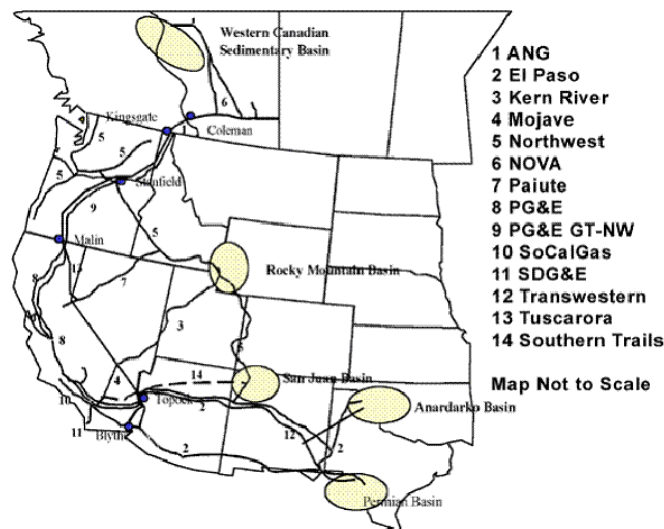
In the utility regulatory arena, regional coordination tends to be less formal. However, the recently formed [Organization of MISO States \(OMS\)](#) brings together the state commissions that regulate electric utilities in the region served by the Midwest Independent System Operator (MISO). The OMS, while not an authoritative regulatory body, provides an institutional framework for regional communication and coordination.

**Organization of MISO States:**  
**Mission Statement.** The purpose of the OMS is to coordinate regulatory oversight among the states; making recommendations to the Midwest Independent System Operator (MISO), the MISO Board of Directors, the Federal Energy Regulatory Commission, other relevant government entities, and state commissions as appropriate; and intervening in proceedings before the FERC and in related judicial proceedings to express the positions of the OMS. ([OMS website](#)).

Although regional governance may offer a number of benefits, particularly in terms of regional policy uniformity, these benefits may be undermined if regulatory complexity and uncertainty are increased by the net addition of another layer of bureaucracy. Another potential significant concern raised by regional governance is the preemption of state and/or local authority. However, a variety of strategies can be implemented by the states that are neither pre-emptive nor excessive; in fact, improved coordination should reduce regulatory uncertainty. Moreover, coordination of effort may be as important, if not more important, than uniformity of policy.

## REGIONAL ENERGY ASSURANCE

In the context of energy industry restructuring, much attention has been paid in recent years to the continued development of regional transmission systems—both regional electricity transmission grids and natural gas pipelines (Exhibit 3).



**Exhibit 3. Major Western Gas Pipelines.**

Regional planning and coordination are essential because supply, transmission, and supply capacity, though still intrinsically related, now span much greater territories.

Each of the general regions of the U.S. has approached regional energy issues somewhat differently, a function of market and geopolitical forces. In general, for example, more experience in coordination can be found among the more densely populated and smaller states of the Northeast as compared to the relatively recent activity of the Midwest. In the Northwest, public power is a factor. In the West, the California power markets are the driving force. Texas has its own electric reliability council (ERCOT), while the Southeast has formed energy boards.

The Energy Emergency Assurance Coordinators (EEACs) program provides a vehicle for regional energy assurance activities. The EEACs can assist the states and the public utility commissions in conducting regional energy emergency exercises, which in turn can improve the development of planning and communication strategies at the local, state, and regional levels.

## STRATEGIES FOR REGIONAL COORDINATION

The following strategies can improve regional coordination, with an emphasis on the role of the state public utility commissions in critical infrastructure protection:

- Make regional coordination a priority in the commission’s overall critical infrastructure protection strategy.
- Delineate explicitly the regions (intrastate, interstate, and international) in which the commission’s jurisdictional utilities operate, recognizing that the different utility sectors may operate within different regional boundaries; these boundaries might already be established, for example, by transmission networks or river basins.
- Share utility infrastructure maps and other geographical information with states within the region, both information in the public domain and sensitive information that must be protected from disclosure.
- Develop a coordinated intrastate strategy that makes use of regional organizational structures in order to avoid fragmentation and enhance continuity.

**NARUC’s Regional Affiliates**

- Mid-America Regulatory Conference (MARC)
- Mid-Atlantic Conference of Regulatory Utilities Commissioners (MACRUC)
- New England Conference of Public Utility Commissioners (NECPUC)
- Southeastern Association of Regulatory Utility Commissioners (SEARUC)
- Western Conference of Public Service Commissioners (WCPSC)

- Build on existing experience, institutions, and policies that promote regional coordination and communications, such as the OMS and the EEAC system; the appropriate institutional vehicle may vary by sector and region.
- Place responsibility and resources for regional coordination in the hands of the personnel at the commission charged with critical infrastructure protection; encourage regular interaction with regional counterparts.
- Organize and participate in regional emergency response exercises to provide a forum for professional interaction; the Energy Emergency Assurance Coordinator (EEAC) can be enlisted for support and assistance in preparing large-scale exercises.
- Develop memoranda of understanding among regional regulators with regard to coordinated information sharing, forecasting and planning, regulatory policies, and emergency response; ensure broad participation among the states in the affected region.
- Hold regular conference calls, meetings, and workshops to develop joint policies and strategies, as well as to promote communications and information sharing among personnel; hold special regional meetings at scheduled professional conferences (e.g., NARUC or NASEO).
- Invite regional input into the development of state energy assurance plans; similarly, provide input to the energy assurance plans of other jurisdictions, including noncontiguous jurisdictions that have utilities that share a common network.
- Identify where state energy assurance plans in a region will compliment or be in conflict and seek early and constructive means of reconciliation.
- Identify policies that may result in unintended or adverse consequences on other states, such as a tax or a requirement that might encourages relocation of an activity deemed by policymakers as desirable or undesirable..
- Develop compatible standards, templates, and timetables for information gathering and reporting practices from multi-state regional utility companies.
- Require multi-state utilities to provide information related to critical infrastructure protection to all regional jurisdictions when it is filed in any of the regional jurisdictions.
- Encourage multi-state utilities to submit critical infrastructure protection proposals for regulatory review on a regional basis.

- Sign a memorandum of understanding with other commissions in the region to promote information sharing and coordination of regulatory activities.
- Conduct joint forecasting, planning, and facility siting studies based on common assumptions and scenarios for the region.
- Invest in models that quantify costs and benefits and promote optimization of regional and local capacity for supply, transmission, and distribution.
- Consider development of regional standards or best practices for system planning, network interconnection, safety and reliability, resource development, and cost sharing, as appropriate.
- Consider conducting joint regulatory hearings with regard to multi-state utilities and infrastructure protection issues (e.g., planning, certification, and cost recovery).
- Encourage ongoing efforts of the national associations (NARUC, NASEO, NCSL, etc.) in promoting regional coordination among the states.

## COMMUNICATION AND INFORMATION SHARING

Communication and information sharing are essential elements to ensuring that states develop harmonized, efficient and effective approaches to critical infrastructure protection and emergency response. The Energy Emergency and Assurance Coordinator(s) (EEAC) program was established through a joint effort of: The U.S. Department of Energy (DOE), the National Association of Regulatory Utility Commissioners (NARUC), and the National Association of State Energy Officials (NASEO).

This energy emergency and assurance communications protocol is geared specifically at communications and information sharing within the energy sector. NARUC and NASEO enlisted the support of their membership in order to identify one or more individuals to serve as points of contact for the EEAC communication system. These persons serve as the states' key representatives for communicating information during an energy event.

Providers of essential energy services can be vulnerable to systems failures, natural disasters, and terrorist attacks. Vulnerabilities and threats, along with interdependencies among all of the critical utility infrastructures, point to the

“Homeland security is a shared responsibility. In addition to a national strategy, we need compatible, mutually supporting state, local, and private-sector strategies” (President George W. Bush, July 16, 2002).

vital importance of effective methods for exchanging information, as well as opportunities for continuous attention and improvement. The August 2003 power blackout, for example, illustrated how communication deficiencies can compound a challenging situation.

In the context of an emergency, more immediate and more detailed situational information will make decision-making more timely, effective, and responsive. This need extends beyond state boundaries; a coordinated regional effort will produce even greater benefits.

An effective intergovernmental communication strategy addresses the sustained flow of information from top to bottom and bottom to top. Information that can and should be shared among federal, regional, state, and local representatives include specifics related to the nature of the emergency or condition and its impact (see protocols below).

In practice, a number of communications systems are in place to facilitate information sharing in the energy sector. The federal and state pipeline safety programs, in which many of the state commissions participate, are an example of long-standing experience in this area ([Office of Pipeline Safety, U.S. Department of Transportation](#)). Across the sectors, the Department of Homeland Security has established Information Sharing and Analysis Centers or ISACs to allow critical sectors to share information and coordinate activities. ISACs have been created for more than a dozen sectors, including the ISACs in the energy, water, and telecommunications sectors. In addition, the DHS established a broad network to facilitate real-time information sharing and analysis.

### **DHS Information Network**

The goal of the Homeland Security Information Network is to provide real-time network connections that will deliver up-to-date information and the ability to collaborate online to all homeland security officials, from the federal level down to local first responders. Its capabilities will include:

- Reliable, persistent connectivity using 192-bit military-grade, end-to-end encryption of data.
- Secure e-mail, collaboration tools, search and link/timeline analysis, and geospatial tools such as mapping and imagery displays.
- Scheduled and ad hoc updates with information such as strategic analysis of terrorism threats, tactics and weapons, and data on suspicious incidents or indications of possible incidents.
- A repository of critical infrastructure protection information.
- Studies and analyses of information gleaned from media resources ([DHS](#)).

## Exhibit 4. Information Sharing and Analysis Centers

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To help develop ways of better protecting our critical infrastructures and to help minimize vulnerabilities, The Department of Homeland Security has established Information Sharing and Analysis Centers or ISAC's to allow critical sectors to share information and work together to help better protect the economy.

### **Agriculture**

None at this time

### **Food**

[Food Industry ISAC](#)

### **Water**

[Water ISAC](#)

### **Public Health**

(An ISAC is in development.)

### **Emergency Services**

[Emergency Fire Services ISAC](#)

[Emergency Law Enforcement ISAC](#)

### **Government**

[State Government](#)

### **Banking and Finance**

[Financial Services ISAC](#)

### **Defense Industrial Base**

None at this time

### **Information and**

### **Telecommunications**

[Information Technology ISAC](#)

[Telecommunications ISAC](#)

[Research and Education Network ISAC](#)

### **Energy**

[Electric Power ISAC \(NERC\)](#)

[Energy ISAC \(Oil & gas\)](#)

### **Transportation**

[Surface Transportation ISAC](#) (Rail & non-rail surface transportation)

### **Chemical Industry and Hazardous Materials**

[Chemical Industry ISAC](#)

### **Postal and Shipping**

None at this time

### **Real Estate**

[Real Estate ISAC](#)

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Source: U.S. Department of Homeland Security. See also the [World Wide ISAC](#).

## THE EEAC SYSTEM

The purpose of the EEAC system is to promote effective intergovernmental communication (federal-regional-state-local), foster a cooperative environment during an energy emergency or energy supply disruption, and coordinate protection of critical energy infrastructures.

The system is triggered when a chief elected or appointed official declares an energy emergency or other significant energy supply disruption that requires monitoring. EEAC contacts may contact or be contacted by DOE or representatives in neighboring states as events warrant.

The EEAC contact list includes qualified and authorized personnel and alternates within the state and territorial governments, as well as key contact information for federal agencies identified by DOE. The contacts have access to current information on their state's profile, including information on supplies, infrastructure, demand, and pricing. Contacts can provide credible and reliable information to the Governor's office, other appropriate state officials, and DOE. Depending on each state's institutional design, one or more individuals may be designated to address the different sectors—petroleum (gasoline, diesel fuel, heating oil, propane, etc.), natural gas, and electricity.

The EEAC communication system provides a means of addressing information-sharing needs primarily through email distribution lists. Only non-proprietary information is shared via the e-mail list or conference calls.

It is vital for government agencies to recognize and endorse the legitimacy and essential role of the EEAC system. Chief officials, Homeland Security designees, and emergency management officials across the nation will rely on state coordinators to present timely and objective analysis and recommendations that will help mitigate adverse impacts energy emergencies and disruptions.

## EEAC PROTOCOLS

The EEAC system is a working model for intergovernmental communications for the energy sector in the context of growing concerns about security, reliability, and interdependency of networked utility services.<sup>1</sup> The benefits of improved communication during an energy emergency extend to other vital areas that affect peoples' lives and livelihood, including water and sanitation, communications, transportation, and other energy-dependent activities and services.

A comprehensive system for coordinated information sharing would help address interdependencies, as well as vulnerabilities and maintaining safety and reliability. Over time, refining the system of communication and information sharing to encompass all of our interdependent utility sectors is a goal worthy of attention at all governmental levels.

The protocols outlined in Exhibit 5 have been developed to improve communication and information sharing through the EEAC system.

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<sup>1</sup> See Alice Lippert, "Presentation on Energy Emergency and Assurance Coordinator (EEAC) System." Office of Energy Assurance, U.S. Department of Energy (February 11, 2004).

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**Exhibit 5. Energy Emergency Assurance Coordinator Protocols**

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- Events that warrant communication with the EEAC:
    - Obvious large-scale event (attack on the power grid, international oil disruption, major ice storm, hurricane, etc.).
    - Emergent problems (spring gasoline change over causing a noticeable effect on supply, severe cold weather, pipeline disruptions, requests for driver hour waivers, price spikes, and other indicators of stress on supplies (substate, statewide, and regional)).
    - Routine summer and winter energy assessments.
  
  - Types of information that should be shared (nonproprietary):
    - Information that quantifies the size, scope, and potential duration of the problem.
    - Geographic area affected.
    - Upstream and downstream effects in the energy supply, transmission, and distribution systems.
    - Public statements made by state officials.
    - Specific actions by state or local governments to mitigate impacts.
    - Requests from industry for assistance and response
    - In-state media reports that reasonably describe the problem.
  
  - How the EEAC list should be used:
    - DOE may request information from a state that reports energy problems.
    - States may request information from DOE regarding events, particularly international events, that may be affecting energy supply and price.
    - States should use the list to communicate regionally. Often problems are not limited to a single state.
    - Too much information is often better than little or no information, but not always.
    - If in doubt use the contact system; a brief message can go a long way.
    - Everyone is busy in a shortage, but communication is key.
  
  - When information should be sent out to the EEAC.
    - When market indicators suggest the potential for supply problems and when monitoring will be stepped up.
    - When an event occurs that effects energy supply/demand or price. (Such as the run on Midwest gasoline supplies on 9/11)
    - When an energy emergency or state of disaster is declared which effects energy supply.
    - An international event occurs that affects energy supply. (DOE should communicate its analysis to the states.)
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**Exhibit 5. EEAC Protocols (continued)**

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- EEAC's responsibilities:
  - Be a credible and timely source of information.
  - If you don't have the answers, you need to be able to get the answers quickly from preexisting contacts in state government.
  - Know and meet with others in your states who are on the EEAC list.
  - Check the various website regularly for the relevant posting of additional information as warranted.
  - Exercise the list periodically by sending status information to regional states (get in the habit).
  - Periodically check your contact information on the list, and update it regularly to keep it current.
  - Know the EEAC's in your region. Have their names and number on your emergency contact list. Don't rely solely on the web site. (Have a paper copy.)
  
- What to do if you get a message from another EEAC
  - If you have any information to lend further insights to the problem, respond to all that received the message.
  - If the message was sent to the full list you should exercise judgment as to whether or not to respond to all.
  - Indicate whether you are or are not seeing similar problems in your state. It is useful to know when others are seeing a problem and your state is not.
  - Verify the information – do not rely solely on your own personal knowledge. Maybe the matter has not yet come to your attention.

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Source: Adapted from Alice Lippert, "Presentation on Energy Emergency and Assurance Coordinator (EEAC) System." Office of Energy Assurance, U.S. Department of Energy (February 11, 2004).

## **FUTURE EFFORTS**

The EEAC effort is an excellent model on which to build when expanding protection of other critical infrastructure (water, energy, and telecommunications). Events of 9/11/01, the August 2003 blackout, the 2004 Northeast Cold Snap and hurricanes, among others, have brought the security and reliability of utility infrastructure to the forefront of our nation's priorities. In each case, the role of communications in a crisis was highlighted.

In today's context, the need to expand such communications systems for better identification and understanding of system vulnerabilities and interdependencies is imperative. Developing a system of communication and information sharing that encompasses all sectors of our interdependent utility system is an important goal that deserves national awareness, and especially, attention by each state.

## FOR FURTHER READING

Electricity Sector Information Sharing and Analysis Center.

Lippert, Alice. "Presentation on Energy Emergency and Assurance Coordinator (EEAC) System." Office of Energy Assurance, U.S. Department of Energy (February 11, 2004).

[Midwest ISO.](#)

NARUC Regional Affiliates:

[Mid-America Regulatory Conference \(MARC\)](#)

[Mid-Atlantic Conference of Regulatory Utilities Commissioners \(MACRUC\)](#)

[New England Conference of Public Utility Commissioners \(NECPUC\)](#)

[Southeastern Association of Regulatory Utility Commissioners \(SEARUC\)](#)

[Western Conference of Public Service Commissioners \(WCPSC\)](#)

[Office of Energy Assurance, U.S. Department of Energy.](#)

[Office of Pipeline Safety, U.S. Department of Transportation.](#)

[Organization of MISO States.](#)

[PJM Interconnection.](#)

[World Wide ISAC.](#)