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**NARUC**

The National  
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Utility  
Commissioners

## Technical Assistance Briefs: State Government Organizational Issues, Roles, and Policy

Prepared by  
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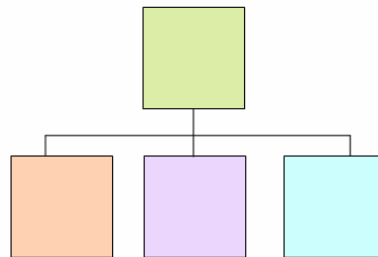
# TECHNICAL ASSISTANCE BRIEF ON CRITICAL INFRASTRUCTURE PROTECTION

## **STATE GOVERNMENT ORGANIZATIONAL ISSUES: ROLES AND POLICY**

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. 4) is part of a series of reports prepared under the direction of the NARUC Ad Hoc Committee on Critical Infrastructure. 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 complementary and reinforcing papers is to provide public utility commissioners and other participants in the regulatory policy community with introductory overviews, suggested protocols, and additional resources on critical infrastructure protection issues.

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.

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 highlights the importance of regional 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, gas and electricity.

Paper 6. *Critical Infrastructure Information Sharing Rules: Model Protocols for States.* The paper discusses both federal and state actions to date regarding the sharing of critical infrastructure information and provides a framework for future cooperation and efforts to harmonize information sharing among 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 findings 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 findings of a 2004 assessment of state commissions regarding gas curtailment planning and related policy issues.

## THE GOVERNMENTAL ROLE IN CIP

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.<sup>1</sup>

The commissions enjoy an unmatched relationship with key stakeholders involved in protecting utility infrastructures.

Along with state energy offices, the commissions are well-recognized as key players in the national homeland security effort. Another widely shared observation is that cooperation and coordination among relevant stakeholders at all levels of government will be the most effective means of providing for the security and protection of the nation's critical infrastructure.

When critical infrastructure is attacked, the National Research Council, part of the National Academy of Sciences, believes that the primary responsibility for response to and recovery from terrorist attacks falls to cities, counties, and states and also involves non-government infrastructure to a significant degree.<sup>2</sup> State utility regulatory commissions and state energy offices are well positioned to provide critical support to meet that challenge.

According to the National Academies, "Private companies own many of the critical infrastructures that are targets for terrorism. Inducing industry to play its critical role in homeland security activities – to invest in systems for reducing their vulnerabilities and to develop and manufacture counter terrorism technologies that may not have robust commercial markets – may require new regulatory requirements, financial incentives, and/or voluntary consensus agreements. A public-private dialogue is required to define the best approach for particular industrial sectors and types of vulnerabilities."<sup>3</sup>

### THE FEDERAL ROLE

The federal government has taken a prominent lead on issues of homeland security. The Department of Homeland Security (DHS) has consolidated most of the 40 federal entities previously identified as having roles in combating terrorism. According to a 200 report of the Government Accountability Office (GAO) federal efforts to assist state and local governments on homeland security

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<sup>1</sup> This brief is based in part on a March 2003 paper prepared jointly by NARUC and NASEO for the NARUC Ad Hoc Committee on Critical Infrastructure and the NASEO Energy Data and Security Committee. The principal author of the 2003 paper was Joe Sukaskas, member of the staff of the Maine Public Utilities Commission, with contributions and assistance from Faith Huntington (Maine PUC), Dennis Keschl (Maine PUC), Jeffrey Pillon, staff of the Michigan Public Service Commission, Michelle Pierdinock, New Jersey Board of Public Utilities and John Tantlinger, Hawaii Energy Resources and Technology Division.

<sup>2</sup> National Research Council, *Making the Nation Safer: The Role of Science and Technology in Countering Terrorism* (2002), ES-18.

issues need to be stepped up and partnerships need to be established to address homeland security concerns.<sup>3</sup>

DHS has established an Office for State and Local Government Coordination (OSLGC).<sup>4</sup> That office has been created in order to serve as a single point of contact for facilitation and coordination of DHS programs that impact state, local, territorial and tribal governments. It also intends to identify homeland security related activities, best practices and processes, and utilize this information to provide opportunities for improvement.

The Secretary of the DHS is assigned the following state-related responsibilities:<sup>5</sup>

- 1) coordinating with state and local government personnel, agencies, and authorities and with the private sector to ensure adequate planning, equipment, training, and exercises;
- 2) coordinating and, as appropriate, consolidating the federal government's communications and systems of communications relating to homeland security with state and local government personnel, agencies, and authorities, the private sector, other entities, and the public;
- 3) directing and supervising grant programs of the federal government for state and local government emergency response providers; and
- 4) distributing or, as appropriate, coordinating the distribution of warnings and information to State and local government personnel, agencies, and authorities, and to the public.

The formation of OSLGC demonstrates DHS' recognition that "effective domestic preparedness ... is not a one-size fits all venture"; states have differing capacities, resources, and roles. This suggests that states need to develop their own comprehensive plans to improve existing practices and policies rather than wait for federal guidance.<sup>6</sup> Ideally, therefore, cooperation and coordination among relevant stakeholders at all levels of government will be the most effective means of providing for the security and protection of the nation's critical infrastructure.

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<sup>3</sup> For further information see the General Accounting Office, *National Preparedness: Integration of Federal, State, Local, and Private Sector Efforts Is Critical to an Effective National Strategy for Homeland Security*, GAO-02-621T, Statement of Randall A. Yim, GAO, April 11, 2002, pp. 9-11.

<sup>4</sup> The White House, *Department of Homeland Security Reorganization Plan* (November 25, 2002), 3.

<sup>5</sup> The Homeland Security Act of 2002, Title VII, Subtitle A, Section 701.

<sup>6</sup> John F. Kennedy School of Government, Harvard University, *Beyond the Beltway: Focusing on Hometown Security: Recommendations for State and Local Domestic Preparedness Planning A Year After 9-11*, (September 2002), I-III.

## THE STATE ROLE

Since September 11, 2001, every governor has designated a state homeland security director to coordinate state homeland security efforts, some within existing frameworks such as law enforcement or defense, and some through special homeland security teams.<sup>7</sup> The National Governors Association (NGA) promotes teamwork as an essential goal for all state agencies, and suggests, “all state government departments’ personnel and resources should be viewed as components of the state’s overall emergency management system.”<sup>8</sup> The NGA recommends that governors identify a lead agency for each critical infrastructure and charge that agency with developing long-term protection plans, warning notification systems, response action plans, and strategies to ensure restoration of essential services.<sup>9</sup>

Each state has also identified a state emergency management agency (EMA) to coordinate the state’s efforts to mitigate, prepare for, respond to, and recover from emergencies under an “all-hazards” approach that applies to any hazard that threatens the state, whether of natural or human origin. The state EMA manages the state’s emergency response and coordination with federal, county, and local officials through the state’s Emergency Operations Center (EOC).<sup>10</sup> Typically, the state government response to homeland security issues will begin with the Office of the Governor, coordinated with the Executive Office of the State and the Attorney General. The state’s emergency management agency, the state energy office, the public utility commission and other departments and agencies also will be involved, although states vary in their particular organization structures.

The following are some examples of state approaches:

- The Pennsylvania Public Utility Commission (PUC), as an outgrowth from a 2002 evaluation, is developing a utility section for the Commonwealth's nine regional counterterrorism task forces as support for incident management. Additionally, the Governor has organized a sub-cabinet for Energy, Technology and Infrastructure to assure cooperative development of energy assurance and infrastructure protection plans for the Commonwealth. The PUC participates under the leadership of the Department of Environmental Protection's Energy Technology office.<sup>11</sup>
- Iowa has constructed a Homeland Security Critical Asset Assessment Model (CAAM) to identify critical infrastructure assets, including a viable

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<sup>7</sup> National Governors Association, *A Governor's Guide to Emergency Management, Volume Two: Homeland Security*, NGA Center for Best Practices (2002), 11.

<sup>8</sup> National Governors Association, *A Governor's Guide to Emergency Management, Volume One: Natural Disasters* (2001), 29 [emphasis added].

<sup>9</sup> *Governor's Guide to Emergency Management, Volume Two*, p. 51.

<sup>10</sup> Federal Emergency Management Agency, *Guide for All-Hazard Emergency Operations Planning, State and Local Guide 101* (September 1996).

<sup>11</sup> Pennsylvania PUC and PEMA, *Protecting Critical Infrastructure: Keeping Pennsylvanians Safe* (2002), I.

geographic information system (GIS) database of asset criticality and vulnerability.<sup>12</sup>

- Hawaii's Homeland Security Critical Infrastructure Protection approach, led by the State Civil Defense Agency (Hawaii's EMA), tapped its existing direct technical and operational support from the State Energy, Resources, and Technology Division (Hawaii's State Energy Office). Chaired by the SEO, the private/public Energy Council, comprised of all of Hawaii's major energy companies (utilities and oil refiners), certain specialized military units, and various agencies from all levels of government – state, county and federal, – first prioritized infrastructure facilities according to criticality to national and economic security. In coordination with industry, U.S. military, local law enforcement, FBI, and other stakeholders, facility vulnerability assessments were conducted. Based on criteria to reduce vulnerability and actively secure and protect facilities, guidelines for infrastructure protection and force deployment plans were developed, and a statewide critical infrastructure protection plan was put into place for implementation according to state-developed color-coded threat levels. Hawaii adapted its colors and plans to comply with the federal Homeland Security Advisory System of color-coded terrorism risk levels shortly after its promulgation by the U.S. Department of Homeland Security.
  
- The Maine Commission has taken an active support role in utility critical infrastructure security. The Commission has assisted in the development of the state's Homeland Security Strategic Plan, which includes its staff participating actively on planning teams to develop specific homeland security plans related to public utilities.<sup>13</sup> As part of that effort, the Commission Staff participates on a state security team that includes the Chair of the Maine Homeland Security Council, the homeland security coordinator for the Maine Emergency Management Agency (MEMA), and the leader of the Maine State Police intelligence and special services unit. That team is conducting an ongoing review of utility security improvements implemented since September 2001, conducted with utility security and management teams at major utilities. The Commission has exchanged 24-by-7 contact information with all major utilities for both operational status and security purposes to assist state and utility interests in communicating issues related to infrastructure security. Commission Staff have assisted the Adjutant General, State Police, National Guard, and MEMA in providing alert and advisory information to utilities whose infrastructure may be threatened. Commission Staff developed and currently maintains a statewide e-mail list of Energy Emergency Information Coordinators to facilitate the dissemination and exchange of timely energy emergency information throughout different agencies of state government. The Commission facilitated the participation of four individuals to represent Maine in a secure

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<sup>12</sup> NGA, *Governor's Guide to Emergency Management, Volume Two: Homeland Security*, 52.

<sup>13</sup> Maine Department of Defense, Veterans, and Emergency Management, *A Strategic Plan for Maine Homeland Security* (2002).

emergency notification system established by the Office of Energy Assurance in the U.S. Department of Energy. The Maine Commission has designated Staff members to serve on the state's Emergency Response Team (ERT) to advise the Governor and MEMA on utility-related issues and is developing the capability to use detailed geographic information system (GIS) maps and data about key utility infrastructure to support the Governor, MEMA, and ERT during events that involve utility systems.

- Michigan currently has a Homeland Protection Board chaired by the Director of State Police and comprised of select department directors to coordinate all Homeland Security related actions across a broad multidisciplinary spectrum, including federal, state, local and private organizations. The Governor also established a Homeland Security Advisory Council comprised of state, local and private sector individuals which has four primary committees, one of which is Critical Infrastructure Protection (CIP). Staff from the Michigan Public Service Commission chair, the CIP committee and the Energy Subcommittee, has representatives on the Communications and Transportation subcommittees, and a seat on the Homeland Security Advisory Council. Efforts have focused on a review of utility security measures and efforts to reduce risk and vulnerability and provided for an ongoing dialogue.<sup>14</sup>
- New Jersey was one of the first states to create a Domestic Security Act shortly after September 11, 2001. The governor has charged the Domestic Security Task Force, which is comprised of cabinet members from all state agencies and led by the Attorney General, to oversee the development of a synchronized and comprehensive program of domestic preparedness that is designed to effectively fuse together all initiatives in the State to detect, prepare for, prevent, protect against, respond to, mitigate, and recover from any act of terrorism. The Task Force is comprised of specific subcommittees of which the NJ Board of Public Utilities is a member. . All state agencies have dedicated the necessary resources and technologies, including GIS to maximize the Task Force's resources, per the governor's request.
- At the urging of then Chairman Denise Bode of the Oklahoma Corporation Commission, Governor Keating established by executive order the Oklahoma Taskforce for Safety and Security. Commissioner Bode was appointed by the Governor to chair the Safety and Security Committee for Energy and Public Utilities. In addition, the OCC formed a support team that included the Oklahoma Military Department, Water Resources Board, Municipal Power Authority, State Bureau of Investigation, Department of Environmental Quality, Department of Emergency Management, Office of State Finance, Department of Public Safety, Office of Homeland Security and One Net (state internet service). All public utilities and energy entities (both regulated and non-regulated) participate in a mass e-mailing of changes to national security levels. In 2002, Oklahoma coordinated with state and

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<sup>14</sup> See Michigan Office of the Governor, Executive Order No.2003 - 6 (April 15, 2003).

federal agencies to conduct Operation Sooner Spring, a tabletop exercise involving a smallpox terrorist attack in the second largest city in Oklahoma. In conjunction with this exercise, a parallel exercise was conducted for responding to the potential spread of bubonic plague in one town and botulism in another town. In addition, the OCC participated with an FBI exercise at a major petroleum distribution point in Cushing, Oklahoma. Oklahoma Gas and Electric (OG&E) and the OCC's Public Utilities Division staff opened an application in 2002 to seek approval of an OG&E security plan for their critical infrastructure. This Cause concluded in November of this year. A five tiered plan was submitted, and the first through third tier were approved. The annual impact on ratepayers in Oklahoma is \$5 million. The OCC recently completed a rulemaking on Protection of Critical Infrastructure for electrical and gas utilities as well as telephone services. The new rules allow the utilities an opportunity to submit a letter to the OCC stating they have a security plan in place. Any request for cost recovery provides for a review by the Commission. The rules emphasize safeguards and protection of critical information.

## **THE STATE ENERGY OFFICES**

State Energy Offices (SEO) also vary widely from state to state in terms of functions related to Homeland Security and critical infrastructure protection. Some have a strong focus on petroleum and some cover all energy sources; some are heavily involved with emergency management and homeland security functions; some have little or no relationship with these emergency functions.

For example, Hawaii's SEO has a long-standing relationship with the state's emergency management agency to provide technical and coordination support to the EMA in the energy emergency preparedness/response and critical energy infrastructure functions in natural and human-made (e.g., acts of terrorism) disasters. To accomplish this, the SEO capitalizes on its cross-sector energy expertise. More important has been the development of a close working relationships with all the member organizations of the public/private sector State Energy Council, which meets on at least a quarterly basis. These meetings focus on both operational and policy issues relevant to energy emergency preparedness and critical energy infrastructure security.

Following 9/11/01, this network of key industry and government organizations, with their common functional interests in critical energy infrastructure security and energy emergency management, was able to move very quickly to adapt existing plans to the new threat context. Furthermore, the network of cooperation and coordination among Council member organizations quickly expanded into a broader system of networks and brought additional stakeholders and resources to bear on the new challenges. There was a concerted and coordinated movement to quickly prioritize key facilities (those supporting vital military installations and state economic viability), and assess and address

vulnerabilities of key energy systems. The next steps were to work together to meet new requirements (e.g., increased armed security and effective force deployment from security and cost perspectives according to threat level) and adapt and expand existing plans.

Most state energy offices probably do not develop, implement or oversee any plans to protect the energy industry's physical energy infrastructures. However, many energy offices develop emergency contingency plans pertaining to energy supply disruptions and shortfalls. These plans will be important if critical energy infrastructures need fuels or if damage to them causes supply interruptions. Nonetheless, state public utility commissions and energy offices can offer valuable assistance on homeland security to emergency management agencies and other state agencies. Many state commissions and energy offices have designated staff as emergency contacts to work with their state's emergency management agency during emergencies that may involve utility infrastructure and services. In some cases (e.g., Pennsylvania, Maine, and Michigan), state commission staff members serve on state Emergency Response Teams (ERT), and during emergencies these commission representatives report to their State Emergency Operations Center (SEOC) to coordinate utility issues.

## **THE STATE PUBLIC UTILITY COMMISSIONS**

The state public utility commissions are not "first-responders" in the case of natural or man-made emergencies, including acts of war or terrorism. These responsibilities general fall to law-enforcement, public-safety, and emergency-management agencies. Certainly, utility companies in the energy, water, and telecommunications sectors also are on the "frontline" when it comes to restoring essential services following an outage or failure.

However, the commissions are responsible for the economic regulation of utilities. In this capacity, the commissions promulgate policies that affect utility investment decisions and operational performance (in general and in emergency situations). The commissions also are uniquely situated to recognize and craft policies with respect to the interdependencies among utility services, and between utility and non-utility services and functions.

Recent years have seen an expansion of the security-related role of the commissions and the interaction between the commissions and other state agencies bearing security responsibilities. Utility regulators traditionally have addressed the adequacy of utility services as an issue of public importance.<sup>15</sup> Current concerns about the protection of the nation's critical infrastructure suggest that for essential services to be adequate, the critical infrastructure supporting those services must be secure and protected.

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<sup>15</sup> . J.C. Bonbright et al., *Principles of Public Utility Rates, 2<sup>nd</sup> Edition* (Public Utilities Reports, Inc., 1988), 15.

State utility regulatory commissions typically have regulatory jurisdiction over the intrastate components of a large portion of the nation's critical infrastructure. The NGA identifies seven key functions that contain critical infrastructure: banking and finance, electric power, emergency services, telecommunications, oil and gas, transportation, and water.<sup>16</sup> Of the seven, electricity and telecommunications are regulated to some extent by all state public utility commissions. Forty-five states have jurisdiction for at least some part of the water industry. Some states have partial jurisdiction over oil and gas and transportation. The Virginia State Corporation also has regulatory jurisdiction over banking and insurance. Some of those jurisdictional differences among commissions are described below.

State commissions differ in their respective jurisdictions over Safe Drinking Water Act enforcement, nuclear power plant activities, energy issues in general, wireless telecom service providers, municipal and other consumer-owned utilities, wastewater and heating utilities, rail, motor carriers, and water carriers. Issues facing utilities also vary significantly by region (e.g., types of fuels available for power generation).<sup>17</sup> The petroleum industry (e.g., refineries and wholesale terminals) is not generally within the purview of the state commissions, although it is an area of concern for state energy offices. Commonalities among commissions, however, far outweigh the differences.

Much of the nation's critical infrastructure related to utility services is neither nationwide nor statewide, but is regional in nature, with key facilities distributed throughout operating regions (e.g., power grids, natural gas pipeline systems, and telecommunications networks). While federal efforts have largely focused on state jurisdictional boundaries, states have recognized the regional nature of critical infrastructure systems and have increased regional cooperation since the 2001 attacks, thereby lowering costs of homeland security. State commissions regularly consider regional utility infrastructure issues through regional NARUC affiliates such as the Western Conference of Public Service Commissioners, the Mid-America Regulatory Conference, and the New England Conference of Public Utilities Commissioners.

A 2002 survey of state commissions by Ernst & Young reflected that about two-thirds of state commissions had "active security initiatives under way," although few commissions were advancing specific federal or industry guidelines.<sup>18</sup> A November 2002 National Regulatory Research Institute (NRRI) survey of state commissions suggests that virtually all commissions have some authority with respect to security for jurisdictional utilities, and most report greater activity in that area since the September 2001 attacks. The NRRI survey revealed that most

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<sup>16</sup> NGA, *A Governor's Guide to Emergency Management, Volume Two: Homeland Security*, 46.

<sup>17</sup> Massachusetts Division of Energy Resources, *Study of New England and Massachusetts Petroleum Infrastructure and Distribution System* (November 2002).

<sup>18</sup> Ernst & Young Center for Business Knowledge, *State PSC Survey Results & Summary* (October 24, 2002).

utilities are reluctant to share security-related information with commissions, even though most commissions have the ability to protect such information.

All commissions responding to the NRRI survey reported that they coordinate to some extent with other state agencies, groups, task forces, etc. on emergency planning and response, and most commissions reported that they maintain a relationship with the state homeland security agency.<sup>19</sup> The NRRI also suggested a number of possible state commission actions related to homeland security (discussed below).<sup>20</sup>

### **COORDINATING EFFORTS: STATE COMMISSIONS AND ENERGY OFFICES**

State commissions are well positioned to focus on critical infrastructures, both within their physical jurisdictions and within the regional systems that serve their states. Some critical infrastructure protection efforts have centered on identification of key assets by local and county jurisdictions, but officials at those levels are often unaware of regional network topologies and the importance of critical infrastructure used primarily for system operations (e.g., static VAR converters that are essential to balance large power grids and regional tandem switches that process most of a region's long distance traffic). State commission familiarity with multiple utility sectors allows commissions to identify potential vulnerabilities and interdependencies between key components of regional systems and different utility systems. Several state energy offices frequently possess similar expertise, and in time of need, commission and energy office resources can be of great value to emergency management agencies trying to understand what and where the "weak links" are on interdependent systems.

State commissions are already familiar with utility contingency plans for potential disasters, both natural (e.g., major storms) and human-caused (e.g., Y2K).<sup>21</sup> As a result, commissions have expertise to provide technical support for homeland security and law enforcement efforts (e.g., identifying key "black start" power generation units that may warrant additional security). A Canadian analysis found that "rapid restoration of power to critical sites will be more efficient if a predetermined list identifies and prioritizes sites which are particularly vulnerable to prolonged outages."<sup>22</sup> Commissions can also supply governors, emergency management agencies, and the public with needed information about utility infrastructure and its protection and can relay threat and warning information to smaller and rural utilities as appropriate.

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<sup>19</sup> National Regulatory Research Institute, *Initial Findings from NRRI's Survey on Critical Infrastructure Security, V3* (November 7, 2002).

<sup>20</sup> National Regulatory Research Institute, National Security and State Public Utility Commissions (September 20, 2001).

<sup>21</sup> *Ibid.*

<sup>22</sup> Canada Office of Critical Infrastructure Protection and Emergency Preparedness, *The September 11, 2001 Terrorist Attacks – Critical Infrastructure Protection Lessons Learned* (September 27, 2002), 8.

Integrating state commissions and state energy offices into emergency planning and response networks and efforts is essential. The Pacific Northwest Economic Region (PNWER), U.S. Navy, the [Federal Emergency Management Agency](#), and [Department of Public Safety and Emergency Preparedness Canada](#) (PSEPC) (formerly the Office of Critical Infrastructure Protection and Emergency Preparedness) coordinated a multi-jurisdiction, cross-border, tabletop exercise on infrastructure interdependencies in June 2002. The exercise revealed significant deficiencies in cooperation, coordination, communications, resources, command and control, and public information dissemination between the sectors participating in the exercise, including energy, telecommunications, water supply, and transportation – sectors generally within the jurisdiction of state commissions.<sup>23</sup> Utility issues were prominent in a U.S. Department of Energy case study on Critical Infrastructure Interdependencies.<sup>24</sup> The Federal Emergency Management Agency (FEMA) suggests that state emergency teams address utility issues.<sup>25</sup>

These simulated deficiencies point to a lack of coordinated planning and preparedness activities by critical stakeholder companies and government organizations. One method of addressing these issues is to establish working linkages of key agencies from within state government, particularly among commissions, energy offices and emergency management agencies. Creating such a core team of energy emergency preparedness and critical infrastructure professionals can expand and leverage the assets of the private sector and government stakeholders. It can also help reduce inefficient overlap and redundancy of functions and communication.

Hawaii's Energy Council is an example of such a structure and process designed specifically for this purpose. The Council was established by necessity in 1992 in the wake of Hurricane Iniki, which devastated the Island of Kauai. It was then adopted at the state level, and it has demonstrated flexibility and effectiveness in its ability to adapt and evolve according to emergency planning and security needs (e.g., Y2K preparations and readiness). More recently, it demonstrated a very high level of effectiveness as a hub of coordination and facilitation of critical infrastructure protection against acts of terrorism.

Although federal agencies recognize the importance of critical utility infrastructure, state commissions may not always receive appropriate information to support their protection activities; a spring 2002 exercise in Oklahoma found that “state agencies regulating major infrastructures ... are not included on federal notification lists for possible terrorist threats within the state or region.”<sup>26</sup>

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<sup>23</sup> Pacific Northwest Economic Region, “Blue Cascades” Executive Summary (July 18, 2002).

<sup>24</sup> U.S. Department of Energy, Office of Critical Infrastructure Protection, *Critical Infrastructure Interdependencies: Impact of the September 11 Terrorist Attacks on the World Trade Center – A Case Study* (November 8, 2001).

<sup>25</sup> Federal Emergency Management Agency, *Guide for All-Hazard Emergency Operations Planning, State and Local Guide 101* (September 1996), 2-3.

<sup>26</sup> Oklahoma Corporation Commission, *Exercise Sooner Spring – April 12-13, 2002*.

Coordination requires effective sharing of threat intelligence, vulnerability assessments, and protective measures in critical areas and regularly exercising capabilities. Prior to creating DHS, the federal government designated the National Infrastructure Protection Center (NIPC) in the Federal Bureau of Investigation (FBI) as the agency responsible for coordinating threat information nationally through Information Sharing and Analysis Centers (ISACs).<sup>27</sup> Now housed in DHS, the program communicates threat information pertaining to electric power systems to the U.S. Department of Energy and the electric industry's North American Electric Reliability Council (NERC) for dissemination through the NERC-operated Electric Sector ISAC (ES-ISAC).

The use of sector-specific information mechanisms results in information “stovepipes” where information distribution is artificially limited. The GAO has found that intelligence sharing “is a problem between the federal government and the states” in general, but GAO notes that some good relationships between federal and state agencies have been formed.<sup>28</sup> The InfraGard program was established by NIPC to provide a cross-sector private-public forum related to physical and cyber threats to critical infrastructure. The InfraGard program is not uniformly developed nor promoted, however.<sup>29</sup>

In sectors where rigid information stovepipes exist, state commissions possess the appropriate combination of expertise across different sectors, an understanding of critical infrastructure in local and regional areas, and insights into possible vulnerabilities and interdependencies between critical infrastructures. Some state commissions have begun to focus on improving information flow. The Virginia Governor's Office has recommended that the State Corporation Commission participate on a team to further communication and intelligence sharing between government and the utility industry.<sup>30</sup> The Maine Public Utilities Commission has signed a confidentiality agreement with the FBI as a secure InfraGard member, and a small number of Maine PUC staff members are being granted security clearances.

Protection of critical information is essential, as well. The White House has stated that: “We need to protect the capabilities we have so that we do not arm our enemies with the knowledge of how best to surprise us.”<sup>31</sup> In balance, we need to define ways to protect essential information without dramatically

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<sup>27</sup> The White House, *Presidential Decision Directive, PDD-63* (1998).

<sup>28</sup> U.S. General Accounting Office, *National Preparedness: Integration of Federal, State, Local, and Private Sector Efforts Is Critical to an Effective National Strategy for Homeland Security*, GAO-02-621T, *Statement of Randall A. Yim* (April 11, 2002), 14.

<sup>29</sup> Pennsylvania PUC and PEMA, *Protecting Critical Infrastructure: Keeping Pennsylvanians Safe* (2002), 14.

<sup>30</sup> Virginia Office of the Governor, *Secure Virginia Panel: Summary of Recommendations* (September 5, 2002), 11.

<sup>31</sup> The White House, *The National Security Strategy of the United States of America* (September 2002), 30.

inhibiting public access to public information. A separate paper in this series addresses this issue in more detail.<sup>32</sup>

Coordination also requires the ability to communicate on a continuous basis. Some state commissions have developed contact names and information for law enforcement, emergency management, utility, and commission emergency management personnel and regularly share that information with those partners.<sup>33</sup> Con Edison's experience in New York in September 2001 highlighted the need for prior arrangements to be in place for utility personnel who may need prompt access to disaster areas to render a scene safe for rescue and other first responder personnel, even if the area is secured as a crime scene.<sup>34</sup> State commissions can assist utilities and law enforcement to identify critical utility personnel for those purposes.<sup>35</sup>

The National Academies have stressed the need for professional and state government associations to be "engaged so that productive interaction between federal agencies and front-line users can proceed."<sup>36</sup> A specific policy initiative of the Federal Communications Commission's Homeland Security Policy Council (HSPC) is to partner with federal, state, and local entities. HSPC materials specifically refer to NARUC as a potential partner in that regard.<sup>37</sup>

Recognizing the need for reliable sharing of critical information, the National Association of State Energy Officials (NASEO), worked with NARUC to develop an expanded network of Energy Emergency Assurance Coordinators (EEAC) for each of the states and territories. Furthermore, having recognized the need for rapid communications during supply disruptions or emergencies, DOE has put this information into an electronic "list serve," providing an emergency information "broadcasting" function. It is widely recognized that reliable communications is one of the most valuable tools that government can use to formulate recommendations for elected officials during disruptions or emergencies.

A public-private dialogue is required to define the best approach for particular industrial sectors and types of vulnerabilities. State public utility commissions and state energy offices possess a wealth of information, technical expertise and energy emergency preparedness capabilities, which should make them key players in homeland security. State commissions have unique expertise related to

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<sup>32</sup> NARUC Ad Hoc Committee on Critical Infrastructure, "Draft Discussion Paper on Information Disclosure," November 22, 2002).

<sup>33</sup> Pennsylvania PUC and PEMA, *Protecting Critical Infrastructure: Keeping Pennsylvanians Safe* (2002), 5-6.

<sup>34</sup> George Greenwood, Con Edison, "A Presentation to Northeast Electric Infrastructure Security & Reliability Forum," (February 27, 2002).

<sup>35</sup> Pennsylvania PUC and PEMA, *Protecting Critical Infrastructure: Keeping Pennsylvanians Safe* (2002), 5.

<sup>36</sup> National Research Council, *Making the Nation Safer: The Role of Science and Technology in Countering Terrorism* (2002), 13-2

<sup>37</sup> Charles Gray and Brad Ramsay, NARUC, "Memo to Executive Committee: Proposed NARUC Ad Hoc Committee on Critical Infrastructure Security" (February 6, 2002).

regional infrastructure and interdependencies between utility sectors. State energy offices, in many cases, have similar expertise, which can be pooled and leveraged in cooperation with the commissions and state EMA. While issues that inhibit the full potential for state commission participation remain, most are being resolved. Differences among the state commissions in terms of organization and regulatory environment do not inhibit regulators from making essential contributions to homeland security efforts.

NARUC is well positioned to assist state commissions, the federal government, state and local governments, and utilities address homeland security and critical infrastructure protection issues. NARUC can also work closely with NASEO to jointly build the capacity of their member agencies in support of DHS's programs in energy assurance and critical infrastructure protection.

## **REGULATORY CONSIDERATIONS<sup>38</sup>**

This section explores three areas related to the regulatory role in critical infrastructure protection: actions that state commissions can take to ensure their ability to continue to operate as an agency in the event of an emergency; commission organizational issues and coordination with other state government agencies; and regulatory policy issues, including methods to ensure restoration of utility services and incentives and disincentives related to security and critical infrastructure protection.

In addition, protocols are provided for making optimal use of the expertise and role of the state public utility commissions in critical infrastructure protection. Included in those recommendations is the identification of state policies that may inadvertently discourage risk reduction efforts by the regulated utilities.

### **PREPAREDNESS OF THE COMMISSIONS**

Like other state agencies, the commissions must be able to continue to function in the event of a large-scale and long-term emergency. Ensuring continued operations requires contingency planning. Although commission managers report that their agencies are not considered "essential" relative to certain other state and local agencies, a disruption of commission operations can be detrimental to constituent customers, regulated utilities, and commission staff members. Utility customers often turn to the commission for questions about services. In fact, some commissions have placed a priority on maintaining a "skeleton" crew in their consumer services divisions. Utility companies want to keep regulators apprised of their status, and can only do so if the commission

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<sup>38</sup> The observations in this section are based in part on a roundtable discussion with state public utility commission managers at the Institute of Public Utilities' Annual Executive Management Forum on July 20, 2004.

establishes a point of contact. Commission employees need a place of work to ensure continuity of function and workload management.

Some of the commissions have taken steps to prepare their commissions for emergency conditions and protect their information resources. These steps include: creating offsite data storage; identifying an alternate location for commission operations if the current facilities were to become unusable; creating/updating contact lists and phone trees and testing them; creating an emergency plan and including it in the employee manual; updating the physical security of the commission facilities, including upgrading cameras; and identifying a skeleton staff of essential personnel to allow operations to continue.

Although the commissions have not typically established a separate organizational unit to deal with security and critical infrastructure protection, most have designated a key contact person within their agency with regard to communications, interactions, and policy development in the areas. Some of the commission executive managers have found that new practices and process improvements (such as offsite data storage) have been prudent and beneficial regardless of the homeland security impetus. However, the managers also note that the assumption of new responsibilities in security have come at a cost to commission resources.

## **ORGANIZATION AND COORDINATION**

The commissions obviously play a role in a much broader government response to the challenges of critical infrastructure protection. Although most commission staff members are not first responders, an exception are certain law enforcement officers involved in transportation regulation, who might be reassigned in the event of a state emergency.

In many respects, traditional contingency planning, disaster management, and emergency-response functions have been broadened to encompass potential threats from terrorism. Most of the commissions engage in some form of intrastate communications and coordination process. Some of the commissions participate actively on task forces and working groups. Some have established emergency communications capability involving secure, off-system hook-ups. Some have participated in statewide planning exercises.

As noted above, many of the commissions now identify a specific individual who is responsible for coordination activities within the state on behalf of the commission. These individuals are quickly becoming policy experts who can speak broadly to issues of security, reliability, and interdependency. It is widely held that these issues have taken a permanent place in the regulatory policy arena.

As also noted above, in addition to intrastate coordination, it is vital for commissions to engage in interstate or regional coordination because many utility transmission networks and service territories cross state boundaries.

## **REGULATORY POLICY ISSUES**

Regulatory policy issues related to critical infrastructure protection can be organized according to three general but interrelated areas: ensuring reliability through requiring contingency planning, handling of sensitive and proprietary information, and recovery of costs in the regulatory context. Another area of concern, as addressed in the next section, focuses on incentives and disincentives associated with the regulatory process.

In the public utility sectors, the concepts of safety and reliability have been effectively broadened to encompass all manner of natural and manmade threats. Regulators today are likely to look more comprehensively at service reliability and threats thereto, including vulnerabilities related to interdependency; however, they are unlikely to prescribe to utilities the specific actions required to address these concerns. Commissions can implement policies to ensure that utilities under their jurisdiction are taking adequate measures to protect their infrastructure and provide continuity of service in the event of an emergency. Some commissions have required utilities to document contingency plans; some also have conducted audits of those plans. The water sector presents a special challenge for some states because the industry is more fragmented. Also, water service is highly energy dependent. However, interconnection among water utilities is limited, which reduces the threat of a cascading crisis.

A long-standing tradition of regulation is that documents and proceedings are open to the public. Security considerations have caused utilities, commissions, and other agencies to seek to maintain the confidentiality of certain types of information, such as maps and other geographic data related to the location of certain facilities. At least one commission has sought funding to improve the commission's documentation of infrastructure systems in the state. Protocols for handling sensitive information have been developed. The commissions are aware of the public-interest ramifications to their balancing of openness against security.

Another major area of consideration for the commissions is cost recovery. Cost recovery raises procedural, accounting, and ratemaking issues—and options exist in all three areas. Commissions traditionally allowed the recovery of prudently incurred costs that related to investments or expenditures that are used and useful to the customers they serve. In protecting critical infrastructures, utilities may face new kinds of costs, including those related to physical security, labor and training, information systems, and contingency planning. Commission managers are well aware that recovery of security-related costs may be difficult to segregate from other utility costs or to allocate in traditional cost-of-service models. Some concerns about utility incentives for cost control and the potential

for abuse have been raised. Protocols for cost recovery were published by NARUC in 2004 ([NARUC Cost Recovery Protocols](#)).

## COMMISSION CHALLENGES

Commissions are faced with two fundamental challenges in responding to issues of critical infrastructure protection.

First, the organization of state public utility commissions is reflective of and designed to enhance their traditional role of economic regulation with a focus on rate making. Their processes have been crafted and refined over the years to ensure that commission decisions are fair, open, deliberative, and confined to the facts of the case. They have been designed to deal with a single utility at a time and often require modification for the creation of rules or policies that affect all utilities. Some would argue that those processes are backward looking, in that they are driven by the attempt to make decisions based on findings of fact rather than the anticipation of future events. Though in recent years, commissions have attempted to become more involved in policy making and to apply alternative forms of dispute resolution and rule making, the tradition of commissions, their organization and processes are dominated by a quasi-judicial model. That quasi-judicial model of operations, though appropriate, to the overall mission of commissions, may not be optimal for issues of critical infrastructure protection.

**Cost recovery** raises procedural, accounting, and ratemaking issues—and options exist in all three areas. Commissions traditionally allowed the recovery of prudently incurred costs that related to investments or expenditures that are used and useful to the customers they serve.

Second, the commission role is to regulate the utilities under its jurisdiction. That regulation is typically limited to “economic” regulation or, more broadly “administrative” regulation. That role is not, if interpreted conservatively, conducive to involvement in issues of critical infrastructure protection. If commissions have a role in ensuring the reliability of service provision, it can be argued that a disruption by terrorism or any other source threatens reliability and, hence, infrastructure protection falls within the direct purview of the state commission. At the Michigan Public Service Commission this was addressed in part by adopting a new goal with in its mission statement which is to, “Assure the security of the State’s critical infrastructure by promoting homeland security.”

As a result, the roles of state commissions in issues of critical infrastructure protection can be categorized as those directly related to the role of the commission (e.g., cost recovery of prudent utility expenditures and reliability protection, such as requiring contingency plans for disasters) and those roles related to the expertise of the commissions developed as they perform their stated regulatory mission and the linkages formed with the utilities and other stakeholders. Those key linkages include relationships with the utilities, other

agencies at the state and federal level, and consumers. The ability of state commissions to allow recovery of prudently incurred costs for critical infrastructure protection has been limited in recent years by the application of innovative ratemaking methods and the opening of some utility markets to competition.

## REGULATORY ENVIRONMENT

Regulatory policies can encourage or discourage utility practices in a wide range of areas, including critical infrastructure protection. The regulatory process is largely reactive; utilities must seek regulatory relief from the regulator, which usually involves a review of utility costs. With respect to security, concerns about regulatory relief are legitimate both for utility investors and for ratepayers.

State public utility commissions may inadvertently discourage appropriate risk reduction efforts by the utilities under their jurisdiction. The identification of impediments does not imply that commissions have somehow failed; most result from the structures and processes that have served the commissions well in fulfilling their core role and mission. A number of features of regulation and the regulatory environment that may inadvertently interfere with utility performance in the area of critical infrastructure protection include:

- Procedural openness. State commissions operate with a spirit and legal requirement for public transparency. In some cases, utility actions with regard to critical infrastructure security need the protection of confidentiality. Most commissions that operate geographic information systems have taken actions to limit public access to the documents on those systems or to require identification of those requesting access.
- *Ex parte* restrictions. Most commissions operate under prohibitions on *ex parte* communications, which can constrain dialog on policy issues. Some state commissions have made very effective use of alternative dispute resolution strategies that employ workshops, technical conferences or other forms of open dialogue. Some commissions are limited by legal prohibitions in their ability to utilize those tools, which would be appropriate for issues of critical infrastructure protection.
- Regulatory lag. Commission processes are not designed to be fast; they are designed to be thorough and fair. Timeliness is often the focus of attention because the lag between the incurrence of a cost and its recovery through rates can be controversial. For major expenditures or policy direction, commissions may not move fast enough for utilities trying to prepare for threats to the service infrastructure. More efficient regulatory processes can be beneficial to all parties. Alternative dispute resolution methods and the use of less formal regulatory proceedings may offer improvement. Of

course, resource limitations at the commissions and the need to maintain due process are relevant constraints.

- **Market restructuring.** With restructured utility markets and alternative ratemaking processes, cost recovery of prudently incurred utility investments may no longer be assured. If the utility is operating in a competitive or partly competitive market, it must consider both the need for the investment and the impact of the investment on its rates and its competitiveness. Market segmentation also complicates cost allocation and recovery methods.
- **Rulemaking processes.** Most commissions have processes for rulemakings to establish policy for all jurisdictional utilities in a sector or across the sectors, as opposed to case-by-case proceedings. Both follow formal procedures. Some states may need to revisit their ability to use the rulemaking process or generic proceedings. These policymaking proceedings should be broad-based to include all affected stakeholders. It may be possible to use alternative dispute resolution methods in rulemaking or generic proceedings to lessen the formality of the process and encourage constructive dialog.
- **Regulatory incentives.** A persistent question in the regulatory policy arena is whether economic regulation itself provides incentives or disincentives for appropriate utility investment in critical infrastructure protection and reliability. One of the chief criticisms of the traditional method of regulation and ratemaking is that it provides too much incentive for investment in the ratebase and too little incentive for innovation and efficiency. Regulators use a number of tools to remedy these problems, including performance-based regulation.
- **Regulatory uncertainty.** Utilities obviously prefer less uncertainty to more. In this context, the regulatory treatment of security-related costs is a concern. The adoption of cost-recovery protocols will tend to reduce uncertainty, without undermining the commission's ability to assess the prudence and usefulness of expenditures. Comparable treatment of costs from utility to utility and over time also reduces uncertainty. Pre-approval is a specific means to reduce uncertainty and lag, and is therefore favored by utilities but not widely adopted by regulators.
- **Policy consistency.** The consistency of policy on an intrastate and interstate basis can help send better signals to utilities about what is expected of them in terms of performance. Utilities that receive "mixed" signals may be less likely to implement optimal practices. Utilities should bring inconsistencies in public policy to the attention of regulators. Consistency in policy, and therefore improvement to the regulatory environment, can be enhanced through communication and coordination among policymakers.

## REGULATORY PROTOCOLS

Despite organizational, procedural, and policy challenges state public utility commissions can adopt a number of strategies to enhance their roles in critical infrastructure protection including enhancement of their interaction with federal agencies.

The commissions can:

- Ensure that their organizations clearly designate the office and individuals responsible for assisting in the development of critical infrastructure policy, as well as coordination on both an intrastate and interstate basis.
- Make known to senior-level decision makers the commission's direct role in infrastructure protection, its broad base of expertise, and its linkages.
- Participate actively in federal-state and intrastate coordination and communication activities, including emergency exercises.
- Review commission activities related to and lessons learned from Y2K preparedness.
- Develop a contingency plan for the commission itself to ensure that it can protect its information resources and function during an extended emergency.
- Require regulated utilities to prepare plans that address critical infrastructure protection, reliability, interdependency, and contingency options.
- Consider adequacy of load management, curtailment, and back-up methods and strategies.
- Facilitate inter-industry communication and information exchange about interconnection and interdependencies.
- Identify through workshops or other methods the key components of contingency plans and ensure that those plans are coordinated across the utilities.
- Adopt protocols for handling sensitive and proprietary information in a manner that is reasonable for all stakeholders and does not undermine the public trust in the commission.
- Adopt protocols to ensure timely cost recovery of prudently incurred costs that are consistent with all appropriate standards of review.

- If necessary, develop procedures for “fast tracking” issues related to critical infrastructure protection.
- Examine procedures and policies with respect to incentives and disincentives for utilities to provide reliability and adequate protection of critical infrastructure, in keeping with their obligation to serve.
- Develop processes for rule making that encourage participation, facilitate consensus, and minimize disputes.
- Consider the use of alternative dispute resolution processes to improve and expedite the regulatory process.
- If necessary, draw on the experiences and processes of other states to craft *ex parte* processes that are conducive to an effective dialogue on these issues.
- Apply knowledge management tools and techniques to ensure that the expertise of the commission is accessible and that it is not lost due to retirements or other departures from the agency.
- Engage stakeholders in a dialogue about critical infrastructure protection and commission policies on an ongoing basis.

Though a central point of responsibility at the commission may be helpful, the critical infrastructure effort at a commission should not be “siloed.” As described above, the commission role in critical infrastructure protection is derived from its formal mission (cost recovery, etc.) and its expertise and linkages with utility stakeholders, as well as other policymakers. As a result, the regulatory response to these issues must involve the full and considerable range of experts at the commissions and their long-standing and comprehensive relationships with stakeholders at all levels.

## FOR FURTHER READING

[Department of Public Safety and Emergency Preparedness Canada \(PSEPC\).](#)

[Lippert, Alice. “Presentation on Energy Emergency and Assurance Coordinator \(EEAC\) System.” Office of Energy Assurance, U.S. Department of Energy \(February 11, 2004\).](#)

[NARUC Ad Hoc Committee on Critical Infrastructure.](#)

[NARUC Ad Hoc Committee on Critical Infrastructure. Model State Protocols for Critical Infrastructure Protection Cost Recovery, August 2004](#)

## 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 \(WCPSC\)](#)

[National Emergency Management Association \(NEMA\), 2002. State Organizational Structures for Homeland Security.](#)

[National Regulatory Research Institute, Critical Infrastructure Clearinghouse.](#)

[Organization of MISO States \(OMS\).](#)

[Tierney, Susan F. \*Regional Issues in Restructuring the Electric Industry\*, National Council on Electricity Policy \(April 1998\).](#)