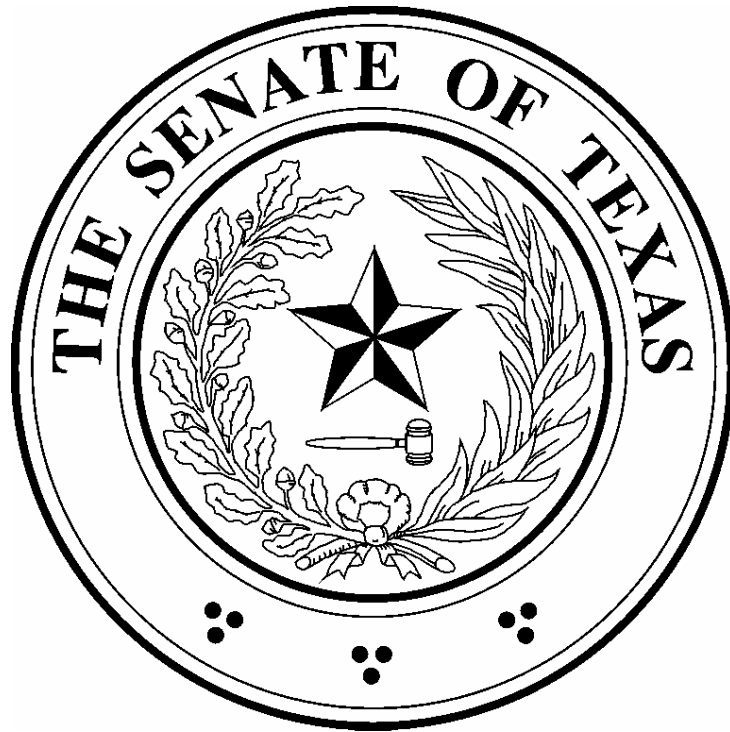


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SENATE COMMITTEE ON BUSINESS AND COMMERCE

SENATE COMMITTEE ON INFRASTRUCTURE  
DEVELOPMENT AND SECURITY



JOINT INTERIM REPORT TO THE  
79TH TEXAS LEGISLATURE

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Senator Troy Fraser  
 Chairman  
 Senator Kip Averitt  
 Vice Chairman  
 Senator Ken Armbrister  
 Senator Kim Brimer

Senator John Carona  
 Senator Craig Estes  
 Senator Mike Jackson  
 Senator Eddie Lucio  
 Senator Leticia Van de Putte

The Texas Senate  
 Business and Commerce Committee

December 1, 2004

The Honorable David Dewhurst  
 Lieutenant Governor of Texas  
 The Capitol, Second Floor East  
 Austin, Texas


Dear Governor Dewhurst:

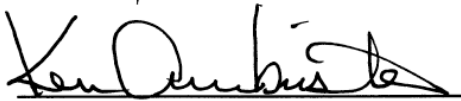
On behalf of the Senate Committee on Business and Commerce, I hereby submit the joint interim report on the security and reliability of the electric system in Texas for consideration by the 79th Texas Legislature.

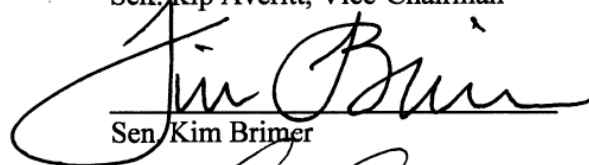
This report was prepared pursuant to joint interim committee charge number one to study the possibility of whether a system failure in Texas could occur in a manner similar to the blackout that occurred in the northeastern United States. Include a review of the Texas electric system and make recommendations on ways to enhance the security and stability of the system. Review industry plans and procedures and determine their effectiveness in responding to system disruption. Study the transmission and distribution system in Texas and make recommendations on the policies to plan for and promote investment in future transmission needs. Coordinate Texas activities with those of the federal government, neighboring states and Mexico to ensure consistent system planning and responses. This study shall include non-ERCOT areas of Texas.

Respectfully Submitted,

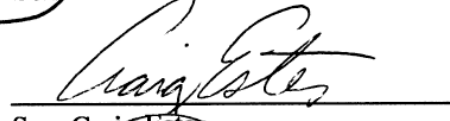
  
 Sen. Troy Fraser, Chairman

  
 Sen. Kip Averitt, Vice-Chairman

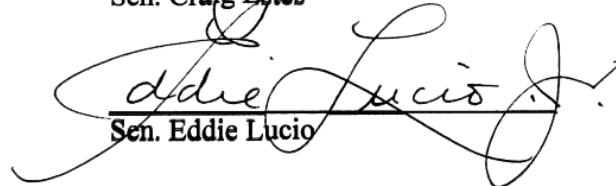
  
 Sen. Ken Armbrister

  
 Sen. Kim Brimer

  
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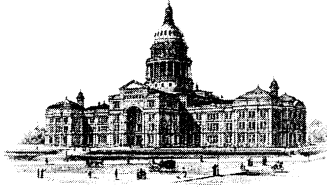
  
 Sen. Eddie Lucio

  
 Sen. Leticia Van de Putte



# Senate Infrastructure Development & Security Committee

SENATOR TODD STAPLES  
CHAIRMAN  
SENATOR GONZALO BARRIENTOS  
VICE-CHAIRMAN  
SENATOR KIM BRIMER  
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SENATOR JON LINDSAY  
SENATOR FRANK MADLA  
SENATOR FLORENCE SHAPIRO  
SENATOR ELIOT SHAPLEIGH  
SENATOR JEFF WENTWORTH

December 1, 2004

The Honorable David Dewhurst  
Lieutenant Governor of Texas  
P.O. Box 12068  
Austin, Texas 78711

Dear Governor Dewhurst:

On behalf of the Senate Committee on Infrastructure Development and Security, I hereby submit the joint interim report on the security and reliability of the electric system in Texas for consideration by the 79th Texas Legislature.

This report was prepared pursuant to joint interim committee charge number one:

Study the possibility of whether a system failure in Texas could occur in a manner similar to the blackout that occurred in the northeastern United States. Include a review of the Texas electric system and make recommendations on ways to enhance the security and stability of the system. Review industry plans and procedures and determine their effectiveness in responding to system disruption. Study the transmission and distribution system in Texas and make recommendations on the policies to plan for and promote investment in future transmission needs. Coordinate Texas activities with those of the federal government, neighboring states and Mexico to ensure consistent system planning and responses. This study shall include non-ERCOT areas of Texas.

Respectfully submitted,

A handwritten signature in black ink that reads "Todd Staples".

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Senator Todd Staples  
Chairman

A handwritten signature in black ink that reads "Gonzalo Barrientos".

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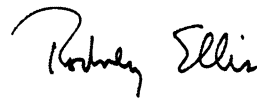
Senator Gonzalo Barrientos  
Vice-Chairman





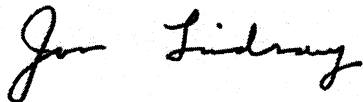
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Senator Kim Brimer



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Senator Rodney Ellis



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Senator Jon Lindsay



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Senator Frank Madla



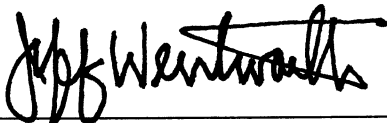
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Senator Florence Shapiro



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Senator Eliot Shapleigh



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Senator Jeff Wentworth

# Joint Interim Charge One

## Introduction

Maintaining the reliability of all of the power systems operating in Texas is necessary, not only to ensure a competitive marketplace for electricity, but to protect the health, welfare, and safety of the public. The overall security of Texans is critically dependent upon the security of the generation, transmission, and distribution of electricity throughout the state.<sup>1</sup> But while a reliable system is crucial to keeping the lights on, even the most reliable system will fail if it is not protected from security risks.<sup>2</sup> Electricity is critical infrastructure, essential to the most basic operations of society, the economy, and government. The United States takes responsibility for assuring its continuity and viability. Vulnerabilities of the nation's electric system must be addressed in a cooperative effort by both the public and private sectors.<sup>3</sup>

The concept of ensuring grid security and reliability has not simply materialized in the wake of the terrorist attacks that occurred on September 11, 2001. The electric industry has been responsible for ensuring the safety and reliability of infrastructure since the transmission and distribution of electricity began. Industry participants are experienced in emergency management, responding regularly to small- and large-scale power outages due to myriad causes. It is important to note, regardless of the cause, response by the electric industry to all power outages is the same.<sup>4</sup> Nevertheless, the terror attacks of September 11, 2001, have awakened the United States to a new, unique threat on our homeland that must be considered by all sectors of critical infrastructure. Existing plans and procedures for protecting the infrastructure and responding to emergencies should be continually evaluated in light of this new threat.<sup>5</sup>

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<sup>1</sup> <http://www.nerc.com/~comply/>.

<sup>2</sup> Testimony provided by Lt. Governor David Dewhurst to the Senate Infrastructure Development and Security and Business and Commerce Committees, August 13, 2004.

<sup>3</sup> "Protecting America's Critical Infrastructures," Presidential Decision Directive 63, May 22, 1998.

<sup>4</sup> Testimony provided by Sam Jones, P.E., Executive Vice President and Chief Operating Officer, Electric Reliability Council of Texas, to the Senate Infrastructure Development and Security and Business and Commerce Committees, August 13, 2004.

<sup>5</sup> "Security Guidelines for the Electricity Sector," NERC, June 14, 2002.

## Background

All areas of Texas and the contiguous United States fall within one of ten electric reliability regions in North America. Electric power in each region is managed by regional reliability councils made up of investor-owned utilities; rural electric cooperatives; state and municipal utilities; independent power producers; power marketers; and end-use customers.<sup>6</sup>

The areas of Texas are covered as follows:

- Southeastern Electric Reliability Council (SERC): covering southeast Texas (Beaumont, Port Arthur, Conroe, The Woodlands, Orange), and most of the southern U.S.;
- Southwest Power Pool (SPP): covering both northeast Texas and the panhandle (Amarillo, Lubbock, Texarkana, Longview and Marshall), Oklahoma, Kansas, portions of Arkansas and Louisiana;
- Western Electricity Coordinating Council (WECC): covering the El Paso area and all or part of 14 states and two Canadian provinces (largest grid in North America); and
- Electric Reliability Council of Texas (ERCOT): wholly located in Texas, covering all areas not listed above.<sup>7</sup>

All reliability councils operate under the reliability and safety standards set by the North American Electric Reliability Council (NERC). Each council is responsible for facilitating reliable power grid operations in their region by working with the electric utility industry organizations operating there.<sup>8</sup>

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<sup>6</sup> <http://www.nerc.com/regional/>.

<sup>7</sup> <http://www.nerc.com>.

<sup>8</sup> <http://www.ercot.com/AboutERCOT/FAQ-ERCOT.htm#q4general>.

## Security of systems in all areas of Texas

### NERC

The National Electric Reliability Council (NERC) ensures "that the bulk electric system in North America is reliable, adequate, and secure."<sup>9</sup> Among other activities to fulfill that mission, NERC coordinates with the ten regional reliability councils, monitors and enforces compliance with reliability standards, and coordinates critical infrastructure protection for the electric system.<sup>10</sup> NERC was designated by the U.S. Department of Energy (DOE) to serve as the Sector Coordinator for the electricity sector protection of critical infrastructure. In that role, NERC works with the U.S. Department of Homeland Security, DOE, and other public and private entities to coordinate industry efforts to protect the grid from terrorist attacks. Specifically, NERC was given the responsibility to:

- assess vulnerabilities of the electric sector;
- develop a plan to reduce vulnerabilities;
- propose a system for identifying and averting attacks and for alerting electricity sector entities and appropriate government agencies that an attack is imminent or occurring; and
- assist in providing minimum system capabilities in an attack's aftermath.<sup>11</sup>

Coordinating the effort to protect infrastructure from terrorist attack includes operating the Electricity Sector Information Sharing and Analysis (ESISAC).<sup>12</sup> ESISAC is one of the many Information Sharing and Analysis Centers (ISACs) established by critical infrastructure industries to facilitate communications between industry participants and the federal government. ISACs cooperate across industries to communicate threat indications, vulnerabilities, and protective strategies.<sup>13</sup>

In June 2002, NERC issued "Security Guidelines for the Electricity Sector." While compliance with the guidelines is not mandatory, the guidelines were intended to provide "general approaches, considerations, practices and planning philosophies" that could be adopted by electric sector entities in protecting their systems.<sup>14</sup> Specific implementation of security measures would have to be based on each individual entity's assessment of their own risk. The guidelines cover the following subject areas: Vulnerability and Risk Assessment, Threat Response Capability, Emergency Management, Continuity of Business Processes, Communications, Physical Security, Information Technology/Cyber Security, Employment Screening, and Protecting Potentially Sensitive Information.<sup>15</sup>

Whether or not any electric industry participants adopted or adapted the guidelines to implement security measures was not presented in testimony at the hearing. Because the

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<sup>9</sup> <http://www.nerc.com/about/>.

<sup>10</sup> Id.

<sup>11</sup> "Security Guidelines for the Electricity Sector," NERC, June 14, 2002.

<sup>12</sup> <http://www.nerc.com/~filez/cip.html>.

<sup>13</sup> <http://www.esisac.com/faq.htm>.

<sup>14</sup> "Security Guidelines for the Electricity Sector," NERC, June 14, 2002.

<sup>15</sup> Id.

guidelines are voluntary, they contain no deadlines or enforceable requirements for implementation. NERC is working to enact standards with which industry participants must comply.<sup>16</sup> In August 2003, for example, NERC adopted a cyber security standard that outlines minimum requirements needed to ensure the security of electronic information needed to support grid reliability. This standard, which was developed under an "Urgent Action" procedure which can only be in effect for one year, has been extended until August 2005.<sup>17</sup>

NERC has established reliability standards which are the fundamental requirements for planning and operating the electric systems in North America. The standards require mandatory compliance by the regions, their members and electric industry participants in order to maintain the reliability of the interconnected bulk electric systems in a competitive electricity environment.<sup>18</sup> With respect to security, NERC Operating Policy 2.A states "All control areas shall operate so that instability, uncontrolled separation, or cascading outages will not occur as a result of the most severe single contingency."<sup>19</sup> Compliance with NERC standards has historically been achieved through voluntary actions of participants of the electric industry. NERC is in the process of transforming its voluntary system of reliability management into a mandatory system and has established a "compliance enforcement program" to monitor and enforce compliance.<sup>20</sup> To stay in compliance with the "n-1 security criterion" mentioned above, electric utility operators and regulators address security just as they do any power outage situation; regardless of the cause, entities must be prepared to respond.<sup>21</sup>

In further pursuit of enforcing standards, NERC has proposed reliability standards for inclusion in federal legislation that would be binding on all participants in the electric industry. Bills containing the NERC-supported reliability language have been moving through Congress, though final passage has not been achieved to date. NERC states federal legislation is necessary to enforce what has been a strictly voluntary reliability system.<sup>22</sup>

## **Federal Energy Regulatory Commission**

The Federal Energy Regulatory Commission (FERC) is an independent agency within the Department of Energy that regulates the interstate transmission of electricity.<sup>23</sup> Within its oversight function of rates, terms and conditions of the sale of electricity and transmission service in interstate commerce, FERC works with other energy agencies and

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<sup>16</sup> Id.

<sup>17</sup> [ftp://www.nerc.com/pub/sys/all\\_updl/standards/FAQ-CyberSecurity.doc](ftp://www.nerc.com/pub/sys/all_updl/standards/FAQ-CyberSecurity.doc).

<sup>18</sup> <http://www.nerc.com/~comply/definitions.html>.

<sup>19</sup> Testimony provided by Paul Hudson, Chair, Public Utility Commission of Texas, to the Senate Infrastructure Development and Security and Business and Commerce Committees, August 13, 2004.

<sup>20</sup> <http://www.nerc.com/standards/>.

<sup>21</sup> Testimony provided by Sam Jones, P.E., Executive Vice President and Chief Operating Officer, Electric Reliability Council of Texas, to the Senate Infrastructure Development and Security and Business and Commerce Committees, August 13, 2004.

<sup>22</sup> <http://www.nerc.com/about/legislation.html>.

<sup>23</sup> <http://www.ferc.gov/for-citizens/about-ferc.asp>.



industry participants to promote measures to improve the security and safety of energy infrastructure including the electric sector. All regional reliability councils that cross state lines are within FERC's regulatory jurisdiction.

Currently, FERC has no oversight relative to NERC. Provisions granting FERC such authority are contained in legislation under consideration in Congress. Legislation pending in Congress would also give FERC authority over reliability of the power grid, ability to certify reliability councils to adopt and enforce reliability rules, and authority to review rules adopted and enforcement decisions.

### **Public Utility Commission of Texas**

Historically, the PUC's role in electric reliability has included the activation of an emergency management response team during natural disasters and homeland security events. The PUC is also responsible for providing information regarding utility outage and restoration to the State Operations Center and working with the Center to provide phone banks, cell phones, priority restoration and mass alerts.<sup>24</sup>

Transmission and distribution utilities are required, by PUC rule, to have Emergency Operation Plans on file at the PUC. The plans must be updated with any changes. The plans are response-oriented, applying whether a power outage is naturally-occurring or man-made.<sup>25</sup>

The PUC reports that transmission and distribution utilities generally conduct the following security activities:

- engage in an annual review process to maintain accurate emergency plan information;
- conduct regular emergency plan system drills;
- provide for thorough emergency and emergency drill review; and
- provide specific training to employees with respect to their emergency responsibilities.<sup>26</sup>

Shortly following the events of September 11, 2001, the PUC sent out a questionnaire to electric utilities regarding increased security plans due to the recent attack.<sup>27</sup> In summary, the responding entities were "promoting increased awareness among their employees and have restricted access to power plants and other facilities."<sup>28</sup> The PUC reported that all utilities had increased their security.<sup>29</sup> Responding entities also reported:

- no definite public relations actions to reassure the public that had been taken;

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<sup>24</sup> Testimony provided by Paul Hudson, Chair, Public Utility Commission of Texas, to the Senate Infrastructure Development and Security and Business and Commerce Committees, August 13, 2004.

<sup>25</sup> Id.

<sup>26</sup> Id.

<sup>27</sup> Ten entities responded, including cooperatives, power generation companies and a river authority.

<sup>28</sup> Service Quality Oversight Related to the Emergency Plans filed by Telephone and Electric Utilities and National Security, Project No. 24729, Summary of Electric Utilities' Increased Security Plans

<sup>29</sup> Id.

- since September 11, 2001, they had reviewed their plans to restore service and some had even revised them;
- they had reviewed their contingency and emergency planning and some had revised or made additions to those plans; and
- they had taken steps to increase their cyber protection.<sup>30</sup>

## **House Bill 9**

House Bill 9, 78th Legislature, Regular Session, included the PUC as a member of the Critical Infrastructure Protection Council (CIPC) which was created to advise the governor on homeland security issues and the development and implementation of a statewide critical infrastructure protection strategy. In that role, the PUC is working with the Governor's Office of Homeland Security and utilities to put together confidential information related to critical infrastructure in telecommunications and electricity.<sup>31</sup>

The PUC has participated in numerous exercises to enhance its preparedness in the event of a blackout:

- September 2003 Cyber-Terrorism exercise with the Texas Department of Information Resources. The exercise mimicked a directed attempt at compromising a component of the Texas power grid.
- February 2004 Unified Defense 2004 exercise - a joint federal state terrorism exercise intended to stretch the resources of the state by staging simultaneous events.
- March 2004 Blackout Workshop as part of the Division of Emergency Management's annual conference addressing the August 2003 Northeast blackout.
- August 2004 South Texas Project exercise - a federal regulatory review of state response to nuclear incident.<sup>32</sup>

The PUC states its future agenda includes:

- assessment of federal legislation;
- regulation in the absence of federal legislation;
- evaluation of ERCOT vulnerabilities;
- participation in the discussion of reliability and market issues in ERCOT and non-ERCOT regions of Texas; and
- assurance of infrastructure adequacy.<sup>33</sup>

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<sup>30</sup> Service Quality Oversight Related to the Emergency Plans filed by Telephone and Electric Utilities and National Security, Project No. 24729, Summary of Electric Utilities' Increased Security Plans.

<sup>31</sup> Testimony provided by Paul Hudson, Chair, Public Utility Commission of Texas, to the Senate Infrastructure Development and Security and Business and Commerce Committees, August 13, 2004.

<sup>32</sup> Id.

<sup>33</sup> Id.

## **PUC Oversight of ERCOT**

ERCOT is the only reliability region in North America that does not fall under the jurisdiction of FERC. Due to its region being wholly contained in Texas, with no interconnections across state lines to import or export power with neighboring states, jurisdiction over ERCOT falls to the PUC.<sup>34</sup>

With respect to ERCOT's compliance with NERC operating standards, the PUC looks at ERCOT's application of protocols. The protocols set forth the procedures and processes used by ERCOT and market participants for the orderly functioning of the ERCOT system and market.<sup>35</sup> ERCOT does not report to the PUC regarding their compliance with NERC standards.

In an effort to ensure communications between ERCOT and its oversight agency, the PUC proposed at its September 2, 2004, meeting, a rule requiring ERCOT to notify the PUC Executive Director of circumstances that present threats to reliability or other ERCOT responsibilities.<sup>36</sup> The proposed rule was published in the Texas Register on September 17 and public comments were due October 8.

## **ERCOT**

Although it is under the jurisdiction of the PUC, as a reliability region ERCOT maintains membership with NERC. As a member of NERC, ERCOT's primary responsibility "is to facilitate reliable power grid operations in the ERCOT region by working with the region's electrical energy industry organizations."<sup>37</sup> Within its region, ERCOT is responsible for overseeing activities related to maintaining the reliable and safe transmission of electricity.<sup>38</sup>

Security is an explicit element of ERCOT's mission statement and their annual performance reviews.<sup>39</sup> ERCOT testified in a recent hearing that "...all [ERCOT] Board members understand that the most critical functions at ERCOT are grid security and reliability."<sup>40</sup> ERCOT stated its primary job is taking appropriate steps to minimize the probability of a significant disturbance occurring on the electric grid and being prepared to respond in the event that one does occur.<sup>41</sup>

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<sup>34</sup> <http://www.ercot.com/AboutERCOT/FAQ-ERCOT.htm>

<sup>35</sup> Watt's New, September 2004, ERCOT

<sup>36</sup> "ERCOT at a Glance" Vol. 5, ERCOT

<sup>37</sup> <http://www.ercot.com/AboutERCOT/Overview.htm>

<sup>38</sup> <http://www.ercot.com/AboutERCOT/FAQ-ERCOT.htm>

<sup>39</sup> Testimony provided by Robert A. Manning, Vice Chair, ERCOT Board of Directors, to the Senate Infrastructure Development and Security and Business and Commerce Committees, August 13, 2004.

<sup>40</sup> Id.

<sup>41</sup> Testimony provided by Sam R. Jones, P.E., Executive Vice President and Chief Operating Officer, ERCOT, to the Senate Infrastructure Development and Security and Business and Commerce Committees, August 13, 2004.

The August 14, 2003, blackout in the Northeastern United States and Canada demonstrated the critical importance society places on the reliable delivery of electricity. Some of the inadequacies that contributed to the blackout were discovered in a utility's emergency procedures, training of operators, communications procedures, and monitoring of the system. Following its preliminary investigation of the blackout, NERC issued six "near term actions" for each regional reliability council to investigate its own compliance with. The areas to be investigated included, among others: communications procedures, control systems, emergency action plans, and operator training to handle emergency situations. ERCOT stated it was fully compliant with NERC requirements in all the areas included in the actions to be investigated.<sup>42</sup>

## **Reliability**

Securing the electric grid in ERCOT must take into consideration several complicating factors. While natural or man-made disasters can occur at any time, ERCOT, on a daily basis, must balance and manage generation, voltage, and congestion over transmission lines to ensure the reliable delivery of electricity to consumers and the proper functioning of the electricity market in Texas.

Having adequate generation to meet growing demand is essential for ensuring reliability. An important factor to the success of the wholesale electricity market in Texas was the passage of Senate Bill 373, 74th Regular Session, in 1995. SB 373 provided open access to utility transmission and distribution systems, enabling independent power producers to enter the market. As a result of this and other legislation, Texas now has a market where generation exceeds peak demand. Recent analysis indicates current installed generation capacity at 75,000 MW and peak demand at 57,000 MW. Considering recent announcements of both construction projects and moth-balling of units, the capacity reserve margin remains well above 20 percent. Taking into account that a reserve margin of 15 percent is considered sufficient for reliability, Texas currently has a healthy level of generation to meet demand.<sup>43</sup>

While adequate generation is an integral component of reliability, sufficient transmission and distribution systems are necessary to move the electricity from generation sources to meet customer demand. Where transmission is lacking, congestion can occur. Congestion can have an impact on reliability because when it occurs, electricity that is necessary to meet demand is restricted. There are a few areas in Texas where congestion is a concern, however, ERCOT has the necessary tools for alleviating and mitigating congestion when and where it occurs. ERCOT also produces annual plans for increasing and improving transmission facilities to reduce congestion and improve the flow of electricity, continually ensuring reliability of the grid.<sup>44</sup>

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<sup>42</sup> Testimony provided by Sam R. Jones, P.E., Executive Vice President and Chief Operating Officer, ERCOT, to the Senate Infrastructure Development and Security and Business and Commerce Committees, August 13, 2004.

<sup>43</sup> Testimony provided by Paul Hudson, Chairman, Public Utility Commission of Texas, to the Senate Committee on Business and Commerce, April 27, 2004.

<sup>44</sup> Id.

## Security

ERCOT maintains two control centers: a primary center located in Taylor and a backup center in Austin. The control room and critical operations areas at the Taylor center are hardened to withstand a Level 3 tornado.<sup>45</sup> Both centers are staffed 24 hours a day, seven days a week and have dual electric feeds, diesel generators, and two computer control systems providing instantaneous fail-over at each site and two minutes fail-over between sites.

In its efforts to provide security for the transmission of electricity throughout the grid, ERCOT cites the following activities: real time contingency analysis run every five minutes; authority to re-dispatch generation to keep within limits; advisories, alerts, and notices are sent out if the grid is unable to operate within the first contingency; and authority to order local load shedding to prevent equipment damage or cascading outages.<sup>46</sup>

ERCOT reports that it has completed the following measures to ensure appropriate procedures are in place to deal with any contingencies that arise: developed a Security Alert Plan; formed a System Security Response Group (SSRG) made up of transmission operators and scheduling entities; communicates alert level changes and suggested security action to each alert level to the SSRG.<sup>47</sup>

## Security Concerns

Concerns about the security of the power grid within the ERCOT region were raised recently when allegations of impropriety by former ERCOT security officials were made public.<sup>48</sup> The allegations, as reported by the media, concern three ERCOT managers and at least two firms that were hired to handle information and physical security. The managers, a director of corporate security and information technology operations, a senior manager for data warehouse and security, and a manager for physical security, are said to have been directors or otherwise involved in the outside firms.<sup>49</sup> Allegations relating to security of the grid include lack of background checks for contractors hired to work inside ERCOT and the possible creation of the firms by the ERCOT managers for the purpose of obtaining ERCOT security and technology contracts.<sup>50</sup> While recent audits concluded there were no security breaches, these events raised serious concerns about security at ERCOT.

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<sup>45</sup> Testimony provided by Sam R. Jones, P.E., Executive Vice President and Chief Operating Officer, ERCOT, to the Senate Infrastructure Development and Security and Business and Commerce Committees, August 13, 2004.

<sup>46</sup> Id.

<sup>47</sup> Id.

<sup>48</sup> Those allegations are still under investigation by the Department of Public Safety and are the focal point of other legislative inquiries and numerous internal and external audits being conducted at this time at ERCOT. Due to the ongoing criminal investigation, the information contained in this report relates only to the security concerns raised by the actions as reported in the media, and not the allegations themselves.

<sup>49</sup> "Scandal inside Texas power grid," Dallas Morning News, July 4, 2004.

<sup>50</sup> Id.

While the Department of Public Safety is conducting a criminal investigation of the allegations, ERCOT is undergoing numerous internal and external audits and reviews of their management practices and controls that will address the concerns raised by the allegations. The audits include:

**Internal Audit.** ERCOT maintains an Internal Audit Department whose purpose is to help ensure that ERCOT's internal controls are adequate and effective. The internal auditor's planned examination of vendor practices and contracting was moved up once improper behavior was suspected.

**External Audits.** The PUC initiated three audits in response to security concerns. One audit is being performed by a California firm, CanAudit. The firm completed a penetration audit where is assessed the vulnerability of ERCOT information technology systems to outside interference. A second audit is being performed by Ernst and Young on broad physical and IT security, the results of which are due on November 15, 2004. A third audit is being conducted by Deloitte and Touche for broad risk assessment and internal control. The results of this third audit are also expected on November 15, 2004.

## Recent Changes at ERCOT

Positive events have occurred in recent months at ERCOT which could impact management and security of the grid.

Tom Schrader was hired as CEO of ERCOT.<sup>51</sup> In a statement released to the press, Mr. Schrader stated, "I pledge my absolute commitment to working closely with the PUC and the auditors currently reviewing ERCOT's management practices and controls, and to act decisively to implement any changes that are needed."<sup>52</sup> Since arriving at ERCOT, Mr. Schrader has also indicated his concern with improving contracting and procurement practices, hiring practices, and cyber-security.

In June, the ERCOT board appointed a special committee to work with internal and external auditors investigating the allegations of contract irregularities and management practices. The committee was asked to also examine key policies, procedures, and internal controls in order to implement necessary changes at ERCOT.<sup>53</sup>

In August, ERCOT hired a Houston-based information technology and management consulting firm to provide internal security services. The firm will concentrate on supporting current operations, responding to audit findings, defining and developing projects, designing security organization structure, managing and resolving security issues, maintaining compliance with security standards, incorporating security provisions in the software development life and system architecture design, and developing a framework for risk assessment.<sup>54</sup>

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<sup>51</sup> <http://www.ercot.com/NewsRoom/PressReleases/pr20040630.doc>.

<sup>52</sup> <http://www.ercot.com/NewsRoom/PressReleases/pr20040727-2.doc>

<sup>53</sup> <http://www.ercot.com/NewsRoom/PressReleases/pr20040616.doc>

<sup>54</sup> "Watt's New?" September 2004, ERCOT

## **Recommendations**

**1.** Current provisions of law direct the PUC to implement service quality and reliability standards for the delivery of energy by utilities and require municipal utilities, cooperatives, retail electric providers, power marketers, and power generation companies to follow the reliability rules established by an independent organization. Additionally, the PUC currently has oversight authority over an independent organization.

Therefore, the Committees recommend that the PUC be responsible for coordinating, facilitating, and overseeing communication with independent organizations, electric utilities, municipal utilities, cooperatives, retail electric providers, power marketers, scheduling agents, and power generation companies with respect to security of the electric network and management of emergencies relating to electric service, in coordination with appropriate federal and state agencies, and may adopt rules to carry out this responsibility.

**2.** There is nothing in current law that would allow the suspension of market rules in an emergency. In the event of a catastrophic event that disrupted electricity markets, such authority could prevent significant economic harm to customers and market participants.

Therefore the Committees recommend that the PUC conduct a study to determine whether the agency should have authority to suspend competitive market rules and require retail electric providers and power generation companies to provide cost-based electric service in the event of an energy emergency, as declared by the Governor.



# **Appendix A**

## Committee Minutes

## MINUTES

### SENATE COMMITTEE ON BUSINESS & COMMERCE

Friday, August 13, 2004

10:00 a.m.

Senate Chamber

\*\*\*\*\*

Pursuant to a notice posted in accordance with Senate Rule 11.18, a joint public hearing of the Senate Committee on Business & Commerce and the Senate Infrastructure Development and Security Committee was held on Friday, August 13, 2004, in the Senate Chamber at Austin, Texas.

\*\*\*\*\*

#### **MEMBERS PRESENT:**

Senator Troy Fraser, Chairman  
Senator Kip Averitt, Vice Chairman  
Senator Kenneth Armbrister  
Senator John Carona  
Senator Mike Jackson  
Senator Leticia Van de Putte

#### **MEMBERS ABSENT:**

Senator Kim Brimer  
Senator Craig Estes  
Senator Eddie Lucio, Jr.

\*\*\*\*\*

A joint hearing of the Senate Business and Commerce Committee and Senate Infrastructure Development and Security Committee was held. Chairman Fraser and Chairman Staples shared presiding duties.

Chairman Fraser called the Senate Business and Commerce Committee to order at 10:20 a.m. Chairman Staples called the Senate Infrastructure Development and Security Committee to order at 10:20 a.m. The following business was transacted:

Chairman Staples laid out joint committee interim charge #1 relating to the security and stability of the Texas electric system and whether a system failure in Texas could occur in a manner similar to the blackout that occurred in the northeastern United States.

Lieutenant Governor David Dewhurst addressed the Committee regarding the joint interim charge. He asked the Committee and all lawmakers to look over current security plans, find shortfalls in the system, and make legislative recommendations for change.

Upon completion of Lieutenant Governor David Dewhurst's remarks, at 10:40 a.m. Senator Averitt moved that both committees stand at ease until 11:00 a.m.

At 11:14 a.m. Chairman Fraser called both committees back to order. Chairman Staples then called the first invited witness, Paul Hudson, Chairman, Public Utility Commission (PUC). Chairman Hudson testified on electric system reliability; Electric Reliability Council of Texas (ERCOT) reliability advantages and challenges; PUC's role; and lessons from the Northeast blackout.


During Chairman Hudson's testimony, Chairman Staples also called Robert Manning, Vice Chairman, ERCOT and Sam Jones, Chief Operating Officer and Executive Vice President, ERCOT, to respond to members' questions. Mr. Manning advised that all board members understand that the most critical functions at ERCOT are grid security and reliability. Mr. Jones testified concerning the back-up plan in place at ERCOT in the event of a system failure.

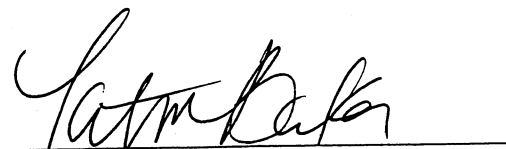
Upon completion of the above witnesses' testimony, Chairman Fraser then called John Fainter, President, Association of Electric Companies of Texas, to testify and respond to members' inquiries.

Following Mr. Fainter's testimony, Chairman Fraser opened public testimony and asked if anyone present wished to testify; none being heard, public testimony was closed.

There being no further business, at 1:14 p.m. Senator Averitt moved that the Senate Business and Commerce Committee stand recessed subject to the call of the Chairman. Without objection, it was so ordered.

There being no further business, at 1:14 p.m. Senator Wentworth moved that the Senate Infrastructure Development and Security Committee stand recessed subject to the call of the Chairman. Without objection, it was so ordered.

  
\_\_\_\_\_  
Senator Troy Fraser, Chairman

  
\_\_\_\_\_  
Tatum Baker, Clerk

WITNESS LIST

Business & Commerce  
August 13, 2004 - 10:00 AM

Joint Interim Charge with Infrastructure Development and Security

ON: Fainter Jr., John President (AECT), Austin, TX  
Hudson, Paul Chairman (PUC), Austin, TX  
Jones, Sam Chief Operating Officer & EVP (ERCOT), Austin, TX  
Manning, Robert Vice Chairman (ERCOT), San Antonio, TX

## MINUTES

### SENATE COMMITTEE ON INFRASTRUCTURE DEVELOPMENT AND SECURITY

Friday, August 13, 2004

10:00 a.m.

Senate Chamber

\*\*\*\*\*

Pursuant to a notice posted in accordance with Senate Rule 11.18, a public hearing of the Senate Committee on Infrastructure Development and Security was held on Friday, August 13, 2004, in the Senate Chamber at Austin, Texas.

\*\*\*\*\*

#### **MEMBERS PRESENT:**

Senator Todd Staples  
Senator Jeff Wentworth

#### **MEMBERS ABSENT:**

Senator Gonzalo Barrientos  
Senator Kim Brimer  
Senator Rodney Ellis  
Senator Jon Lindsay  
Senator Frank Madla  
Senator Florence Shapiro  
Senator Eliot Shapleigh

\*\*\*\*\*

A joint hearing of the Senate Infrastructure Development and Security Committee and the Senate Business and Commerce Committee was held. Chairmen Staples and Fraser shared presiding duties.

Chairman Fraser called the Senate Business and Commerce Committee to order at 10:20 a.m. Chairman Staples called the Senate Infrastructure Development and Security Committee to order at 10:20 a.m. The following business was transacted:

At 10:21 Chairman Staples laid out joint committee interim charge #1 relating to the security and stability of the Texas electric system and whether a system failure in Texas could occur in a manner similar to the blackout that occurred in the northeastern United States.

At 10:22 a.m. Lieutenant Governor David Dewhurst shared some remarks pertaining to this charge.

At 10:40 a.m. Senator Averitt moved that both committees stand at ease until 11:00 a.m.

**SENATE COMMITTEE ON INFRASTRUCTURE DEVELOPMENT AND SECURITY**

Minutes

Friday, August 13, 2004

page 2

At 11:14 a.m. Chairman Fraser called both committees back to order.

Invited testimony on joint charge 1 was heard. Witnesses registering and/or testifying on this joint charge are shown on the attached list.

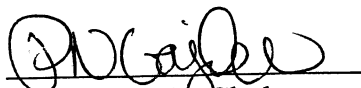
At 1:12 p.m. Chairman Fraser asked if anyone present wished to testify, none being heard, public testimony was closed on joint interim charge #1

There being no further business, at 1:14 p.m. Senator Averitt moved that the Senate Business and Commerce Committee stand recessed subject to the call of the chair. Without objection, it was so ordered.

There being no further business, at 1:14 p.m. Senator Wentworth moved that the Senate Infrastructure Development and Security Committee stand recessed subject to the call of the chair. Without objection, it was so ordered.



Senator Todd Staples, Chair



Patricia Gajda, Clerk

WITNESS LIST

Infrastructure Development and Security  
August 13, 2004 - 10:00 AM

Joint interim charge with Business and Commerce

ON: Fainter, Jr., John W. President (AECT), Austin, TX  
Hudson, Paul Chairman (PUC), Austin, TX  
Jones, Sam EVP & COO (ERCOT), Austin, TX  
Manning, Robert Vice Chairman (ERCOT Board), San Antonio, TX