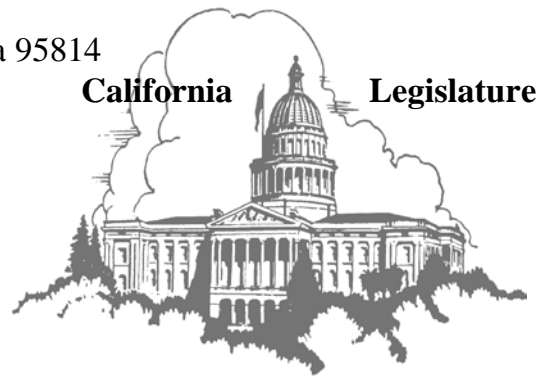


State Capitol  
Sacramento, California 95814



**California Assembly Utilities and Commerce Committee  
&  
Joint Legislative Committee on Emergency Management  
Briefing Paper on December 2011 Southern California Windstorm Power Outage**

**Abstract**

This paper discusses the practices and communication strategies employed by both investor-owned and local publicly-owned utilities emergency response management, and recovery during the 2011 Southern California Windstorm Power Outage. It also examines the California Public Utilities Commission's (CPUC) regulatory oversight of emergency response and offers suggestions for areas where clarity may be needed to more effectively manage utility-related emergencies.

**I. Introduction**

From November 30<sup>th</sup> to December 1<sup>st</sup>, 2011, Southern California experienced hurricane-force winds that caused electric customers throughout the region to lose power. The severe wind conditions resulted in downed power lines, toppled-over trees, road debris, and other safety related problems across the Southern California region. It has been estimated that approximately 430,000 electric customers in Southern California Edison's (SCE) territory, approximately 50,000 customers in the Los Angeles Department of Water and Power's (DWP) territory, 10 percent of customers in Pasadena Water and Power's territory were affected, and roughly 10,000 customers of Glendale Water and Power. While power in some of the affected areas was restored within several hours, other areas were without power through December 8, 2011.

Customers have expressed frustration and anger, mostly directed toward SCE's management of the outage restoration process, citing lack of information and lack of outreach.

## **II. Southern California Edison's Response to Outages**

Approximately 430,000 electric customers in the SCE service territory experienced outages in the aftermath of the storm. The areas hardest hit in SCE territory were San Gabriel, Altadena, Arcadia, Sierra Madre and Temple City.

The extremely high winds caused considerable damage to the distribution power grid, power lines, poles, and equipment. The utility deployed over 200 SCE and contract crews to restore service. Their efforts were complicated by the safety hazards created by the trees and other large pieces of debris.

The length of the outage was attributed to utility safety concerns (both public safety and personnel safety). SCE crews needed to repair lines or reconstruct poles as part of the process of safely restoring power to individual customers.

In response to the extended time it took to restore service, SCE opened seven community outreach centers on Saturday, December 3<sup>rd</sup> in the hardest hit areas where customers could receive free basic supplies, including flashlights, water and ice. The centers were located in Altadena, Arcadia, La Canada Flintridge, San Gabriel, Sierra Madre and Temple City.

Customers in the Greater San Gabriel Valley area were one of the hardest hit by the power outages. According to a December 6<sup>th</sup> press release issued by SCE approximately 105,000 customers were affected by the outages and over 6,000 were still without service as of 5:00 pm that day.<sup>1</sup>

Although crews worked around the clock to restore service beginning November 30, power was not fully restored to all SCE customers until December 8.

## **III. DWP, Pasadena, and Glendale Utilities Response to Outages**

### **A. Department of Water and Power**

In DWP's service area, most of the affected customers were located in the areas of Highland Park, Chinatown, Cypress Park, and Lincoln Heights. DWP personnel reported more than 200 downed trees. DWP sent city crews to respond to danger caused by the storm. By December 4, DWP reported that power had been restored to almost all of DWP's customers. According to DWP, "crews worked 16-hour shifts around the clock in hazardous conditions to restore electric service. As many as 138 crews worked across the city to restore power to customers, responding to and resolving over 1,600 separate incidents ranging from single customer outages to full circuit outages affecting thousands of customers at a time."

On January 17, 2012 the Los Angeles City Council adopted a motion to assess emergency response coordination:

"...that the Police Department, Fire Department, Emergency Management Department, Public Works Bureaus, Department of Transportation, Los Angeles Department of Water and Power,

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<sup>1</sup> <http://www.edison.com/pressroom/pr.asp?bu=&year=2011&id=7772>

and other departments as necessary, be instructed to report to the Public Safety Committee on: (1) ongoing efforts to achieve inter-departmental and multijurisdictional coordination; (2) the types of training and exercises conducted to promote interagency coordination; (3) the process for completing and reviewing after action reports for multiagency incidents; (4) an assessment of the ability to communicate with the public during incidents that result in a power outage; and (5) the availability of grant funding for a multiagency exercise." <sup>2</sup>

## **B. Pasadena Water and Power**

Approximately 10% of Pasadena Water and Power's customers were affected by the outage. Following restoration of power, the utility reports that some repairs were temporary fixes that the utility intends to make permanent over the next few months.

## **C. Glendale Water and Power**

According to Glendale Water and Power, approximately 10,000 customers lost power during the outage. According to Principal Electric Engineer Henry Abrari at the utility, the longest outage following the storm lasted about nine hours and 30 minutes. The utility attributes its ability to lessen the impact of the outage to an aggressive tree-trimming program.

# **IV. Disaster Management in the State of California**

## **A. State Emergency Management System**

The Standardized Emergency Management System (SEMS), developed as a result of the 1991 East Bay Hills Fire, is California's system for managing emergencies. SEMS provides a consistent template to enable State, tribal and local governments, nongovernmental organizations, and the private sector to protect against, respond to, and recover from all emergencies and disasters regardless of scope, cause, location, or complexity. It is a core set of doctrines, concepts, principles, terminology, and organizational processes that enables effective, efficient, and collaborative incident management. This framework forms the substructure for interoperability and enables diverse agencies and organizations to conduct coordinated and efficient incident response operations.

All state government agencies must use SEMS when responding to multi-jurisdictional or multi-agency emergencies. All local government agencies must use SEMS in multi-jurisdictional or multi-agency emergency responses to be eligible for state reimbursement of response-related personnel costs.

Similarly, the National Incident Management System (NIMS) was established via Homeland Security Presidential Directive in 2004 to establish a systematic, proactive approach by which to guide governments and agencies (including the federal government) at all levels to work seamlessly during a disaster. Together, SEMS and NIMS provide the basis of California's Emergency Response System.

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<sup>2</sup> [http://clkrep.lacity.org/onlinedocs/2012/12-0093\\_MOT\\_01-17-12.pdf](http://clkrep.lacity.org/onlinedocs/2012/12-0093_MOT_01-17-12.pdf)

That said, incidents typically begin and end locally, and are managed on a daily basis at the lowest possible geographical, organizational, and jurisdictional level. For this reason, every county is responsible for the development of its own Emergency Operations Plan, utilizing SEMS and NIMS, which takes into account each local government's resources and unique hazards and terrain. Should an earthquake, fire, or other such disaster occur in the Los Angeles area, it is expected that first responders will adhere to SEMS and NIMS and respond accordingly – thereby seeking regional, state and federal assistance as needed.

In recent years, California's utility providers have been commended for their participation and coordination with the state's first responders during the management of disasters. That said, the SIMS/NIMS process is largely only employed when fire or law enforcement officials are considered to be the "first responders" during an emergency. In circumstances in which there is no fire or other imminent threat to the safety and security of residents, such as a power outage, there is no "first responder" response. And, there is no requirement that utilities themselves employ the SEMS/NIMS protocols or structures as incident managers during singular utility-unique emergencies, such as the windstorms or the Pacific Southwest Power Outage, both of which occurred in California in the past six months.

## **B. Communication During a Disaster**

A critical component to SEMS and the successful management of a disaster in California is the ability of all first responders – regardless of specialty or region – to communicate with each other, officials, and the public at-large.

The 9/11 Commission Report found that:

“The inability to communicate was a critical element at the World Trade Center, Pentagon, and Somerset County, Pennsylvania, crash sites, where multiple agencies and multiple jurisdictions responded. The occurrence of this problem at three very different sites is strong evidence that compatible and adequate communications among public safety organizations at the local, state, and federal levels remains an important problem<sup>3</sup>.”

In the wake of 9/11, former U.S. Homeland Security Secretary Michael Chertoff remarked in 2006 that “...the critical foundation for an effective response is the ability to talk to one another.” He explained that:

“It is a task that is very formidable, and requires not only a technological element, but also an element of governance, an element of how we deal with each other in terms of very different organizations and very different chains of command<sup>4</sup>.”

Governments across the country are working to establish the infrastructure and networks to allow diverse emergency response jurisdictions to communicate with each other seamlessly during an event. It is crucial that first responders know both where additional assistance is needed, and also facilities/areas that they should avoid entering (i.e. fires deemed “out of control,” buildings in danger of collapse, areas with pipelines in danger of rupturing). The need for emergency communications interoperability is especially great in the Los Angeles region with over 50 law

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<sup>3</sup> The National Commission on Terrorist Attacks Upon the United States, “9/11 Commission Report,” 2004, pg. 397.

<sup>4</sup> Remarks by Homeland Security Secretary Michael Chertoff at the Tactical Interoperable Communications Conference, Washington, D.C. May 8, 2006.

enforcement agencies and 31 fire departments serving a 4,084 square mile region and 10 million County residents.

Similar to the SEMS/NIMS “dilemma” however, the interoperability discussed above does not traditionally include utility companies as partners. When discussing the importance of interoperability and communication to effectively managing emergencies, the discussion typically involves both unified technology and a culture of coordinated communication – across jurisdictions, geographies, and leadership mentalities. Interoperability involves the acknowledgement that emergencies and disasters are best managed cooperatively, and not in a “silo’d” manner.

It has been argued by several Los Angeles-area officials that SCE did not reach out to partners in this incident in an attempt to neither more effectively manage the emergency nor to better communicate with the public about the delays in power restoration or access to emergency services.

## **V. Utility Emergency Response Practices and Procedures and Maintenance**

### **A. Standards for Operation, Reliability, and Safety During Emergencies and Disasters**

The California Public Utilities Commission (CPUC) General Order No. 166 establishes standards for operation, reliability, and safety during emergencies and disasters. The purpose for these standards is to ensure that jurisdictional electric utilities are prepared for emergencies and disasters in order to minimize damage and inconvenience to the public which may occur as a result of electric system failures, major outages, or hazards posed by damage to electric distribution facilities. The standards facilitate the CPUC's investigations into the reasonableness of the utility's response to emergencies and major outages.

One of the standards requires utilities to meet certain goals such as a Customer Average Interruption During Index (CAIDI) of lower than 570 minutes. This requirement becomes effective if the utility experiences a major event. GO 166 defines a "major outage" as occurring when "10 percent of the electric utility's serviceable customers experience simultaneous, non-momentary interruption of service". According to the CPUC, the SCE wind event in December 2011 affected approximately 5% simultaneously, thus it is not considered a major event under GO 166.

### **B. Pole Maintenance**

SCE owns and maintains approximately 1.5 million utility poles in its service area. Following this outage, the CPUC examined 60 of 211 SCE power poles. According to the CPUC representative, Denise Tyrell, "Our preliminary investigation suggests to us that at least one-third of these damaged poles were indeed overloaded."

The CPUC adopts general rules applicable to all regulated utilities. In particular, General Order 95, Rule 44.2 provides requirements for adding load to a utility pole (this provision was added in August 2009, following the San Diego wildfires):

#### **"44.2 Additional Construction**

Any utility planning the addition of facilities that materially increases the load on a structure shall perform a loading calculation to ensure that the addition of the facilities will not reduce the safety factors below the values specified by Section IV. Such utility shall maintain these pole loading calculations and shall provide such information to authorized joint use pole occupants and the Commission upon request.

All other utilities on the subject pole shall cooperate with the utility performing the load calculations described above including, but not limited to, providing intrusive pole loading data and other data necessary to perform those calculations."

Poles that were constructed or modified prior to August 2009 may or may not have had a load calculation performed to ensure that these facilities will not reduce specified safety factors.

In one newspaper report about this windstorm, CPUC representative Denise Tyrell said that the CPUC believes poles overloaded with telecommunications and other equipment are a significant issue throughout Southern California and beyond, "and we need to address that immediately."

In that same article, Southern California Edison President Ron Litzinger said that, in addition to cooperating with the CPUC's investigation launched in December, the utility is conducting an internal investigation and has engaged outside experts to independently review its response. "Pole loading is something we take very seriously and look for compliance," Litzinger said. "We also have to evaluate loading of a pole anytime there is a new attachment from a cable or phone company."

The CPUC conducts periodic audits of pole facility load calculations. Penalties of up to \$50,000 per violation per day could be levied.

### **C. General Rate Case – Recovery of Costs for Maintenance**

On a triennial basis, each of the largest Investor Owned Utilities files an application at the CPUC for its General Rate Case. In those Rate Cases, the utility will request funds be allocated for maintenance of its electricity distribution system. Maintenance includes, but is not limited to replacement of power poles, transformers, insulators, conductors, etc. Once the General Rate Case has been approved, utilities are authorized to collect rates, along with a return on investment, for the capital cost of this maintenance.

SCE publishes work papers on the SCE website to describe, in detail, its plans for expenditures. These work papers form the basis of the requests made in the General Rate Case. While the work papers for the current rate case were not available (a technical malfunction prevented them from being downloaded), information was available about a prior rate case that is relevant to a discussion of pole maintenance. The following is an excerpt from testimony filed by the Division of Ratepayer Advocates analysis of the 2007-2001 rate case:

"In the 2007-2011 Rate Case, SCE requested a total of \$505.288 million in capital expenditures to replace distribution wood poles for years 2007-2011. SCE forecasts a replacement rate of 8,630 poles in 2007, 9,673 poles in 2008 and 11,768 poles in 2009. In 2006, SCE replaced 12,059 poles. In 2007, SCE actually replaced 8,961 poles."<sup>5</sup>

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<sup>5</sup> Report on the Results of Operations for Southern California Edison Company, General Rate Case, Test Year 2009, Testimony filed by Division of Ratepayer Advocates, April 15, 2008

It is not clear whether the poles that were damaged during the windstorm were among those identified to be replaced under the current, past, or even future rate cases.

According to SCE in the 2007-2011 rate case:

“Poles are inspected routinely, through “Intrusive” inspections and “Detailed” inspections. “Intrusive” inspections involve drilling into the poles’ interior in order to measure the extent of any internal decay, which is typically undetectable with external observation only. Poles with insufficient wall thickness necessary to meet the strength requirement of G.O. 165 are identified for replacement. In accordance with G.O. 165, these intrusive inspections are performed for the first time after a pole is 15 years old but before it is 25 years old. Subsequent intrusive inspection inspections must be performed at a minimum of every twenty years thereafter... “Detailed” inspections involve visual examination of the pole’s exterior condition as well as the condition of components on the pole. “Detailed” inspections are performed on a five-year cycle in accordance with G.O. 165....Poles will also be identified for replacement from a variety of other sources. These “Other Program” poles include those identified by local Districts as being unsuitable for climbing or insufficiently strong to support new equipment or poles initially identified for repair but later concluded to be too deteriorated.”

It is not clear whether the CPUC requires the utilities to keep records on locations where poles have been inspected, scheduled for inspection, or replaced, once a rate case has been approved.

## D. Utility Emergency Response Plans

While an electrical blackout may not yield imminent danger for Californians, sustained periods without electricity do pose a serious health danger to at-risk populations (i.e. the aged, disabled, and medically-dependent) and can impact the economic stability of small businesses and households (via inability to work, loss of perishable food items, etc.). Those dependent upon electricity for the operation of medical machinery are of particular concern, especially when faced with an ability to call for assistance either because of physical disability or because of lack of electricity.

Electric utilities regulated by the CPUC are required to file an annual emergency response plan.<sup>6</sup> In addition, publicly owned utilities are required by federal law to have emergency response plans.<sup>7</sup> The CPUC also regulates electrical utility providers in California, in large part to maintain safe conditions and standards for those involved in the provision of electricity to California's residents.

The CPUC requires the following specific elements within the utility emergency response plans to help assure the utility is best able to protect life and property during an emergency or major outage and communicate the scope and expected duration of an outage. The plan includes the following elements:

- **Internal Coordination.** Describe the utility's internal coordination function, including how the utility will gather, process, and disseminate information within the service area, set priorities, allocate resources and coordinate activities to restore service. The utility will coordinate internal activities in an emergency operations center or use some other arrangement suitable for the purposes of internal coordination.
- **Independent System Operator/Transmission Operator Coordination.** Provides for utility coordination with the ISO, including gathering, processing and disseminating information from the ISO, and providing information regarding how the utility will establish priorities and estimates of service restoration. A utility that does not deal directly with the ISO shall describe how it will coordinate its efforts with the TO.
- **Media Coordination.** Addresses the utility's provision of timely and complete information available to the media before, during and immediately after a major outage. Such information shall include estimated restoration times and a description of potential safety hazards if they exist.
- **External and Government Coordination.** Addresses the utility's efforts to coordinate emergency activities with appropriate state and local government agencies. The utility shall maintain lists of contacts at each agency which shall be included in the plan and readily accessible to employees responsible for coordinating emergency communications. The utilities may address the use by governmental agencies of California's Standardized Emergency Management System (SEMS).

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<sup>6</sup> CPUC General Order 166

<sup>7</sup> 49 CFR 192.615



- **Safety Considerations.** Describes how the utility will assure the safety of the public and utility employees and the utility's procedures for safety standby. The plan shall include contingency measures regarding the resources required to respond to an increased number of reports concerning unsafe conditions.
- **Damage Assessment.** Describes the process for assessing damage and, where appropriate, the use of contingency resources required to expedite a response to the emergency. The plan will generally describe how the utility will set priorities, facilitate communication, and restore service.
- **Restoration Priority Guidelines.** Include guidelines for setting priorities for service restoration. In general, the utility shall set priorities so that service is restored first to critical and essential customers, and so that the largest number of customers receives service in the shortest amount of time.
- **Mutual Assistance.** Describe how the utility intends to employ resources available pursuant to mutual assistance agreements for emergency response. Mutual assistance shall be requested when local resources are inadequate to assure timely restoration of service or public safety. Mutual assistance need not be requested if it would not substantially improve restoration times or mitigate safety hazards. The plan shall recognize the need to communicate mutual assistance activities with the State Office of Emergency Services, through the UOC/OES Utility Branch, during an emergency.
- **Plan Update.** Annual updates to incorporate changes in procedures, conditions, law or Commission policy.

In 2011, Senate Bill 44 (Corbett, Chapter 520) was signed into law by Governor Jerry Brown, in an attempt to address a number of the emergency response issues associated with the San Bruno Pacific Gas & Electric (PG&E) pipeline disaster of 2010. This measure specifically required the CPUC to commence a proceeding to establish emergency response standards, including the creation of emergency response plans, to be followed by owners or operators of commission-regulated gas pipeline facilities. This action is currently underway and several operators, including PG&E have initiated the creation of emergency response plans in anticipation of the CPUC's rulemaking on this matter.

It should be noted that this issue is not unique to California's utility or emergency management structures. In fact, in 2011 alone, at least 11 bills were pending in seven states to more effectively manage energy security – many specifically addressing the issue of maintaining energy emergency preparedness plans<sup>8</sup>.

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<sup>8</sup> National Conference of State Legislatures, "Energy Security Legislative Update," April, 2011.

## **E. Experiences during October 2011 Southwest Power Outage**

The Assembly Utilities and Commerce Committee and the Joint Legislative Committee on Emergency Management co-hosted an informational hearing on the topic of the Pacific Southwest Power Outage in October of last year. At the hearing, San Diego Gas & Electric (SDG&E) in particular, discussed their outreach and communication during the 12-hour blackout to nearly 5 million residents within their service territory. It was revealed that San Diego's Mayor, Jerry Sanders, was in contact with SDG&E, and as a result, communicated effectively with San Diego's police and fire departments, and activated the region's emergency operation center accordingly. In addition, the Mayor advised the community to minimize use of landlines and cell phones and restrict travel to emergency purposes only.

SDG&E deployed nearly 200 workers to provide welfare checks on medical and life support to customers not reachable by phone. Workers knocked on over 1,800 doors both during and after the outage to ensure their customers' safety. They also utilized other communication channels such as Twitter, email and their website to provide updates. In addition, SDG&E coordinated with government emergency responders during the incident to provide information on the extent of the outage and updates on progress toward restoring power.

SDG&E relayed that they also worked with media at the local, state and national level providing live interviews, outage/restoration information, and safety information. Police, sheriff and fire departments were also updated regularly and local, state and federal elected officials were briefed throughout and after the event.

## **F. Citizen Preparedness**

The California Emergency Management Agency (CalEMA) recommends preparing for a minimum of 72 hours of self-sufficiency in the event of a serious crisis.<sup>9</sup>

From all newspaper accounts, it appears that most citizens were able to manage through the outage without any serious or widespread problems (health emergencies, public safety, and crime). The local citizens acted responsibly, heeded the warnings of emergency responders, and provided support to each other throughout the event.

Neither local police departments nor the Los Angeles Police Department reported no major incidents or any increases in violence. All remained fully operational receiving 911 calls and dispatching services during the outage.

That said SCE has been publicly criticized for its emergency communications strategy during the windstorm. Claims have been made that SCE did not take advantage of assistance in the recovery from the storm that was offered by the Los Angeles County Fire Department. In addressing the Los Angeles City Council, Los Angeles County Battalion Chief, Ron Larriva expressed frustration that he experienced challenges working with SCE. He stated that he had no point of contact and was refused in his attempts to reach SCE's Public Information Officer. He opined that the lack of communication contributed to the delays in restoring power, and that Edison

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should have established a unified command system, similar to those created by first responders when managing disasters.

## **VI. Role of the California Public Utilities Commission Related to Outages**

According to the CPUC's website:

"The CPUC regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies. The CPUC serves the public interest by protecting consumers and ensuring the provision of safe, reliable utility service and infrastructure at reasonable rates, with a commitment to environmental enhancement and a healthy California economy."

The CPUC implements state statutes related to regulated utilities. The CPUC also initiates its own proceedings that, when rules are adopted by the CPUC, have the force of law after adoption by the CPUC. It is important to note that the CPUC does not have regulatory authority over publicly owned utilities, such as DWP, Pasadena, and Glendale.

Section 364 of the California Public Utilities Code requires the CPUC to adopt inspection, maintenance, repair, and replacement standards for the distribution systems of investor-owned electric utilities. It further states that the standards be performance or prescriptive standards, or both, as appropriate, for each substantial type of distribution equipment or facility, to provide for high quality, safe and reliable service.

This statute provides that the Commission consider cost, local geography and weather, applicable codes, national electric industry practices, sound engineering judgment, and experience.

In addition, this statute requires the CPUC to adopt standards for operation, reliability, and safety during periods of emergency and disaster and require each utility to report annually on its compliance with the standards and make these reports available to the public.

Last, the statute requires the CPUC to conduct a review to determine whether the standards have been met. If the CPUC finds that the standards have not been met, the CPUC may order appropriate sanctions, including penalties in the form of rate reductions or monetary fines. The review shall be performed after every major outage.

As highlighted in this paper, the CPUC has adopted specific General Orders related to safety of the electric distribution system and specific requirements for annual emergency response plans.

On December 7, the CPUC announced that it would be conducting an investigation into the prolonged power outages from the windstorm in the service area of SCE. The CPUC will examine the cause of the outages, including pole failures and any other potential safety factors that contributed to the outages or their duration, as well as staffing levels and the length of time it took SCE to respond to safety related calls from its customers and the accuracy of the information being conveyed.

The CPUC staff has issued preliminary findings from its investigation of SCE's response to the power outages. In summary, these findings include (note that DWP, Pasadena, and Glendale Utilities are not part of the CPUC investigation):

- SCE's Communication efforts
  - To Governments: SCE's Local Public Affairs contact for cities in the San Gabriel Valley retired the day before the Wind Event and the dedicated phone line for Governments did not provide much more information than General Public Line
  - To General Public: General public reported 4,000 "downed lines;" SCE underestimated the time needed to restore power; 13.8% of Medical Baseline Customers and Critical Care Customers receive Automatic Outage Communications from SCE
  - Portions of SCE's Emergency Plan contain antiquated CPUC contact information
- SCE's Power Restoration Efforts
  - SCE's initial interpretation of Smart Meter data directed restoration efforts inefficiently
  - After SCE realized this problem, it revised its interpretation of Smart Meter data, which expedited restoration efforts
  - SCE cancelled a majority of pre-planned work, and reassigned those resources to help with restoration efforts
  - SCE did utilize contractors
  - SCE did not utilize mutual assistance
- SCE Utility Poles
  - Preliminary calculations indicate that 13.4% of the SCE poles involved were overloaded, in violation of General Order 95, Rule 44.3.
  - SCE did not preserve all evidence as required by General Order 95, Rule 19.
    - Only 60 pole butts out of 200 were maintained
    - Some poles were cut into 8 inch long pieces
    - Numerous poles were missing pole numbers
    - Only five poles could be reconstructed

The CPUC staff recommended the following actions based on its investigations:

- SCE update its emergency procedures to contain accurate contact information and reporting instruction.
- SCE review and follow its training schedule.
- SCE revise its storm categorization to expedite restoration
- SCE review its mutual assistance policy and determine if such assistance could expedite restoration level during major events such as this incident.

## **VII. Conclusion**

For decades, the Legislature has focused California's attention on the imperative of preserving the state's supply of electricity and the necessity of maintaining the grid to support higher usage at various times. While it is generally understood that outages will occur and that accidents will happen, it is crucial that governments, agencies, and private companies work to both minimize these incidents and maintain a sense of calm and continuity for the public when emergencies occur.

It is important to note that during the 2011 windstorms, disaster was avoided. The utilities, jurisdictions affected, and residents of the County of Los Angeles and the San Gabriel Valley very much deserve to be commended in this regard.

Nonetheless, there are still lessons that can be learned from the southland's recovery from this incident. It is clear that, while praise is merited, room for improvement exists within both the public and private sectors. With three major utility-related emergencies in California over a 15 month period, it is time that we examine fully our expectations of our electricity and energy providers and state regulators when it comes to disaster management and implementation of emergency response plans; oversight over planned maintenance inspections and replacement of utility facilities, and compliance with current rules and laws. It is imperative that we, as a state, continue to strive for improvement in this arena with a keen eye towards enhanced public safety and emergency management when outages occur.