



Long Beach City Council: 2015 Long Beach Power Outages

Long Beach, CA

January 5, 2016

Summary of Reports

SCE's Internal Root Cause Investigation

- Utilized internal and external interviews, inspections, records review, and root cause analysis methodology

Davies Consulting – Independent Report

- Expert on utility risk assessment, operations and emergency management
- Investigation utilized similar investigative techniques
- Scope extended to include the effectiveness of SCE's response

SCE's Conclusions on Cause and Gaps

Cause

Improper operation and insufficient management oversight of the Long Beach network system

Gaps

Lack of "ownership" of the network by a single entity within SCE

Need for more thorough protocols in the operation of the network

Lack of trained staff dedicated to understanding and managing the system



Lack of sophisticated controls needed to monitor and effectively manage the network

3

Southern California Edison

Actions and Recommendations

- ✓ Establish network owner and improve management oversight and monitoring
- ✓ Improve mapping of network cable and equipment
- ✓ Enhance automation of network equipment
- ✓ Develop network modeling capability
- ✓ Improve detailed equipment inspections and maintenance
- ✓ Tether vault lids on the Long Beach downtown network enclosures
- ✓ Improve training for technicians, operators and engineers
- ✓ Enhance operational controls and measures

 Completed
 In Progress or Ongoing

4

Southern California Edison

Davies Consulting Summary and Gaps

Summary

Insufficient execution of the incident response and management processes

Gaps

Insufficient communication and interactions with critical stakeholders

Lack of thorough protocols in the operation of the network

Delayed understanding of incident complexity



Incident Command System not yet fully mature

5

Southern California Edison

Actions and Recommendations

- ✓ Refine Incident Management Team activation protocol
- ✓ Improve use of rosters and shifts
- ✓ Assign individuals with broad experience to lead response
- ✓ Activate Mobile Command Center
- ✓ Enhance incident complexity analysis process
- ✓ Establish accountability for preparedness and response role activation
- ✓ Establish Business Resiliency as the organization accountable to determine level of response
- ✗ Enhance incident response and stakeholder communication
- ✗ Improve local agency collaboration

 Completed
 In Progress or Ongoing

6

Southern California Edison

Conclusions and Next Steps

- SCE is deeply disappointed and accepts full responsibility for the extent and duration of the outages. We are committed to providing safe, reliable and affordable service to our valued customers.
- SCE completed all immediate actions and many of the corrective actions.
- Studying the Davies report recommendations; will develop and implement actions to strengthen our processes and response.
- Partner with EPRI (Electric Power Research Institute) to embark on a thorough network review, discuss industry best practices and leverage technology innovations.
- Continue to improve our restoration protocols for critical and significant events and provide on-going training and response preparation for our employees and leaders.
- Work to complete the balance of the corrective actions and the effectiveness reviews to ensure actions are imbedded in the organization.