Southern California Edison
Communication Overview

City of El Segundo
November 15, 2016
Topics of Discussion

✓ Outage Overview
✓ Repair Outage Overview
✓ A Word About Maintenance Outages
✓ Outage Indexes (SAIDI, SAIFI, MAIFI)
✓ Outage Information Tools
✓ Outage Management and Communications Team
✓ Questions
Outage Overview
Definition of Outages

• A **maintenance outage** is a planned maintenance and controlled event where an item of the electrical plant or a circuit needs to be temporarily taken out of service for repair, or to allow for network alterations.

• A **repair outage** is a result of the loss of a section of the power network due to a fault.

• An **emergency outage** is a result of an unplanned event causing us to manually de-energize power
Repair Outage Processes
Causes for Repair Outages

• Car hit pole
• Private Underground Dig-in 811
• Fire
• Contamination Flashover (dirt on the lines creating arc, bird droppings etc.)
• Birds or animals on equipment
• Heavy rain flooding vaults and/or washing out poles
• Overloaded equipment during heat storm
• Vandalism/Theft
Repair Outage Process

• Customers can report an outage through SCE's Customer Contact Center (customer representative or interactive voice response), online at SCE.com or through SCE's mobile application.

• Outage information is continually processed and updated in SCE’s outage and customer information systems and is available to customers throughout the duration of the outage through the communications channels listed above.

• Customers receive automated notifications and updates, including restoration information.

• Current maintenance and repair outage information is always available on SCE.com or SCE’s mobile application.
Maintenance Outages Process
Maintenance Outage Process

- Maintenance outages are entered into SCE’s outage management system (usually less than 13 days before the outage).

- Maintenance outage postcards are distributed to impacted customers 3 to 8 days in advance of the outage. (If time does not allow for a postcard to be mailed, a door hanger is used.)

- Customers also receive automated notifications 7 to 11 days in advance of the outage through the communications channel of their choice (e-mail, text, automated phone call).

- Cities and counties (designated contacts) receive an e-mail containing information regarding all the maintenance outages within their geopolitical boundaries scheduled for the following week.
Outage Indexes
(SAIDI, SAIFI, MAIFI)
Reliability Metrics

**Momentary Outages:**
Outages lasting 5 minutes or less

- **MAIFI:**
  - The number of times the average customer is interrupted by Momentary outages each year.

**Sustained Outages:**
Outages lasting longer than 5 minutes

- **SAIFI:**
  - The number of times the average customer is interrupted by Sustained outages each year.

- **SAIDI:**
  - The cumulative amount of time the average customer is interrupted by Sustained outages each year.
Causes of Repair Outages in El Segundo Circuits 2015 YTD

- **Equipment Failure**
  e.g., in-service failure of transformer, switch, or conductors
- **Vegetation/Animal**
  e.g., tree branch, rodent, or bird causing a short circuit between conductors
- **Other**
  e.g., patrolled but no cause found
- **Operations**
  e.g., urgent maintenance w/o 3-day notice
- **3rd Party**
  e.g., balloon, car hit pole, dig-in

**Contributions to SAIDI by Outage Cause**

- Equipment Failure, 42.8%
- Vegetation/Animal, 11.4%
- Weather/Fire/Earthquake, 15.8%
- Other, 25.9%
- 3rd Party, 1.7%
- Operation, 2.4%

**SAIDI** = the cumulative amount of time the average customer is interrupted by “sustained” outages each year.
Contributions to SAIFI by Outage Cause

- **Equipment Failure**
  - e.g., in-service failure of transformer, switch, or conductors
- **Vegetation/Animal**
  - e.g., tree branch, rodent, or bird causing a short circuit between conductors
- **Other**
  - e.g., patrolled but no cause found
- **Operations**
  - e.g., urgent maintenance w/o 3-day notice
- **3rd Party**
  - e.g., balloon, car hit pole, dig-in

**SAIFI** = the number of times the average customer is interrupted by “sustained” outages each year.
Average Reliability of 21 Circuits Serving El Segundo

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<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2nd Qtr 2015</th>
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Notes:

No outages are excluded from the metrics.

Outage Causes:

- Other: e.g., patrolled but no cause could be found
- Operations: e.g., urgent maintenance w/o 3-day notice to customers
- 3rd Party: e.g., balloons, car hit pole, dig-in
- Vegetation/Animal: e.g., tree branch, rodent, or bird causing short circuit across conductors

SAIDI (minutes) = the cumulative amount of time the average customer is interrupted by “sustained” (longer than 5 minutes) outages.

SAIFI (interruptions) = the number of times the average customer is interrupted by “sustained” outages.

MAIFI (interruptions) = the number of times the average customer is interrupted by “momentary ” (lasting 5 minutes or less) outages.
Outage Information Tools
Communications Tools

Email Sample

If you plan to operate an emergency generator during the outage, please call us at 1-800-726-6088. Copying this will help us protect our employees from possible electrical backfeed.

More Information

For information or questions about the outage, please email corp.compl@edison.com or call 1-800-686-4777. You can also check the status of this outage by visiting sce.com/outage and referencing the outage number(s) below.

Sincerely,
Southern California Edison

Outage Center

Maintenance Power Outage

Dear CUSTOMER,

We're sorry, but due to certain conditions, we had to reschedule the maintenance outage in your area. We apologize for any inconvenience and we appreciate your patience.

Outage Information

Outage # 353.86

Estimated to Start: 11/5/2015 at 8:00 a.m.

Estimated to End: 11/5/2015 at 6:00 p.m.

Service will be affected at the following address(es):

5622 HAPPY STREET
OUTAGE, CA 92262-2649
Services: ACCOUNT 3-0XX-XX1212
Phone: 1-800-666-7665

Things You Should Know

Please note that the power may be off for the entire period or may be turned off more than once. This is normal for our local estimates and build conditions may cause the outage to not start exactly on time or be postponed.

Learn more on how to prepare for an outage.

Tips to Prepare

Stay updated on the status of your outage.

View The Outage Center

New Mailer Sample

Maintenance Power Outage Alert

Dear CUSTOMER,

We will be performing maintenance on the electrical system in your area that will cause the power to be out temporarily. The work will ensure our grid is modern, reliable and up-to-date, but we understand that it can be an inconvenience. We do our best to minimize the length of time you are without power. Please keep in mind that working with electricity can be hazardous and know that the safety of our customers and crews is our priority.

Thank you for your patience and understanding as we work to maintain and improve our system to better serve you.

Please be prepared to be without electric service on the following date and estimated time:

Maintenance Power Outage Info

Outage Date: 11/5/2015

Start Time: 11:00 a.m.

End Time: 6:00 p.m.

Service address affected: 5622 HAPPY STREET, OUTAGE, CA 92262-2649

Tips to Prepare:

- Help in better communication with you about outages.
- Sign-up for text, email, or phone alerts at sce.com/outage.
- Be prepared to be without electric service during outage.

Open Immediately

POWER OUTAGE ALERT

© 2012 Southern California Edison®
Customized Outage Alerts

1. search [www.sce.com]
2. Click on Outage Center
3. Click on Manage Alerts Preference
SCE.COM Outage Center and Map
SCE Mobile Outage App

Customers are able to view maintenance and repair outages on a Google Map. You will be provided with an at-a-glance view of the current outages across SCE territory, and one-click-access to view outage-related details such as:

- Report a power outage
- Report a streetlight outage
- Search outages by address, city or zip code
- Total customers affected
- Start time of outage
- Estimated restoration time
- Cause of outage
- Status of repairs
- Time of last update
- Contact phone numbers
Who to Contact?

- Report an outage to:
  
  24 Hour Call Center – **1-800-611-1911**
Questions
Thank You

Southern California Edison Team Members:
Connie Turner
Alfredo Martinez
Paul Hennessey
Jason Farr
David Kanowsky
Franklin Farwell