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SDG&E's Fire Prevention Activities

September 13, 2010



Overview of Today's Presentation



- Discuss state of SDG&E's 2010 fire prevention measures
- Status of fire collaboration efforts
- System design limit issues

Fire Prevention Measures - 2010



- **Increased Inspections**
 - ▶ Additional QA/QC inspections and closer work with Communication Infrastructure Providers (CIPs)
 - More aggressive vegetation management & tree trimming
 - Use of laser scanning technology to identify and correct potential problems on the 69 kV transmission system
- **System Changes**
 - Disable automatic recloser switches
 - Added new pulse closer technology
 - Harden overhead facilities to achieve 85 mph design standard
 - Maintain power sources serving downtown Fallbrook, Valley Center, Ramona and Alpine
 - 80 sectionalized distribution circuits in high risk fire areas
 - Installed 93 anemometers to assess wind conditions on power lines
- **Other activities**
 - Utility Wildfire Prevention Team (for 90 days) and the Sun Bird Air Crane for construction of the Sunrise Powerlink making it available for firefighting (2010-2012)
 - Staging crews during Red Flag Warnings
 - Turn off power lines when winds exceed design limits or field observers report hazards
 - New customer website with weather conditions and outage information

Enhanced Response



- A Utility Wildfire Prevention Team will join our crews during high fire risk times of the year.
 - ▶ Two contracts for 2010 to cover transmission and distribution activities.
 - ▶ Staff up to 8 fire engines.
- Provides early fire detection & rapid response
 - ▶ On standby during hazardous fire weather conditions.
 - ▶ Deployed during outage restoration or other work on power lines.



Enhanced Response cont.



- SDG&E's new "Sun Bird" Heavy-Lift Helicopter for dual role: construction of the Sunrise Powerlink and fire response.
 - ▶ Cooperative agreements with fire agencies.
 - ▶ Largest Heli-tanker in the world (2,500 gal. tank or 2,000 gal. bucket).
 - ▶ Can refill in less than 45 seconds.
 - ▶ Provides increased initial attack capability.
- Sept. 2 & 3 response to Cowboy Fire in east San Diego County
 - ▶ Cause was a signal fire.
 - ▶ Requested by CALFIRE.
 - ▶ 42 water drops (equivalent to 120 fire trucks).
 - ▶ Successful integration with other air attack.



Customer Outreach and Communications



- **Education and Outreach**
 - ▶ Fire prevention newsletter with SDG&E, Red Cross, OES and Fire Chiefs mailed to customers in Highest Risk Fire Areas
 - ▶ Participate in fire station open houses and community events in August, September and October
 - ▶ Brief community leaders and elected officials on fire preparedness activities
 - ▶ General emergency preparedness messaging in print, web, radio and television
- **Communication Activities**
 - ▶ August / September issue of Energy Notes
 - ▶ September 1 - Briefed local media on SDG&E emergency and fire preparedness activities for 2010
- **Scenarios and messages for SDG&E to follow have been drafted for declared Red Flag Warnings. Outbound dialing and sdge.com are the channels for communicating during these events.**
 - ▶ External website with customer-appropriate and weather information
 - ▶ Early warning when Red Flag Warning declared and high winds expected
 - ▶ One- to two-hour notification of potential shut-off to areas where wind gusts are forecasted at 56 MPH
 - ▶ For Medical Baseline / Life Support Customers (MBL/LS), if outbound dialer cannot make contact or leave a message, field personnel would be dispatched to the home to make contact or leave a door hanger message

Fire Safety Stakeholder Collaborative Process



- Approximately 40 stakeholders have been participating in the fire safety collaboration to develop a joint fire prevention plan, facilitated by Federal Mediation & Conciliation Service
 - ▶ Over 100 solutions have been proposed to prevent major fires
 - ▶ SDG&E is already implementing many solutions identified by stakeholders (e.g. turning off reclosers, system hardening)
 - ▶ Some options require actions by government agencies or other stakeholders
- SDG&E is also meeting one-on-one with stakeholders to discuss specific operational, coordination and communication issues for this year's fire season
- We are reaching out to Disability Rights Advocates to discuss their recent Petition For Modification (PFM) filing and determine whether SDG&E or the collaborative process can resolve their concerns

New Outage/Weather Conditions Website



Weather Conditions - Mozilla Firefox

http://preview.sdge.com:81/safety/fireprep/weatherConditions-demo.shtml

Weather Conditions

Safety

- Fire Safety
- Natural Gas Safety
- Electric Safety
- Preparing for Outages
- Preparing for Emergencies
- Tree Safety
- Kids Safety Zone
- Safety Home

Current Red Flag Warning Status - Red Flag Warning In Effect

[National Weather Service red flag conditions](#)

Why We Monitor Weather Conditions

We have an obligation to protect public safety as well as the integrity of our electric system. If wind speeds exceed electric system limitations or we are unable to operate the system safely, we will turn off the power. If this is necessary, the power will be off for as long as these conditions last and will not be turned back on until it is safe.

High winds that occur during a Red Flag Warning may cause power outages, and may also result in power being turned off for public safety.

Wind Speeds

- Moderate (Under 35 MPH)
- High (Over 35 to under 45 MPH)
- Extreme (45 MPH and above)
- Currently Experiencing An Outage

8:00 AM
9:00 AM
10:00 AM
12:00 PM
12:30 PM

Wind Condition Level By Circuit And Community

Circuit	Communities	Wind Speeds	Last Updated	Outage Cause	Estimate Time Of Restoration	Number of Affected Customers
0067	Barrett Lake, East Jamul	Moderate	9/1/2010 8:00 AM			
0073	Dehesa, Descanso, Japatul, Viejas	Moderate	9/1/2010 8:00 AM			
0075	East Jamul, West Jamul, Potrero, West Rho SD	Moderate	9/1/2010 8:00 AM			

View a sample bill image to see where your circuit is shown.

Done

Overhead Electric System Design Limits



- SDG&E and other utilities have constructed power lines in conformance with Rule 43 of G0 95 which correlates to a 56 miles per hour (mph) wind speed.
- SDG&E and many others believe that safety factors cannot safely be utilized to assume an increase the design limit. The California IOU's and industry experts agree that 56 MPH is the design limit for structures in Light Loading areas.
- Safety factors are added to ensure there is an adequate margin of safety over the design limit to account for variability:
 - In materials, design uncertainty, construction deviations, deterioration or other unpredictable factors.
- SDG&E is hardening circuits in high risk fire areas (e.g. replacing wood with steel) to improve reliability and reduce risk of fires. It further raises the design limit to 85 mph.

Safety Factors



Wood Pole = 2.0

Steel Pole = 1.0

Insulators = 1.33

Conductors = 1.33

Guys = 1.0

Wood Crossarms = 1.33

The Safety Factors shown in the photo are for Grade B Construction after 1/3 reduction (per GO 95, Rule 44.3). The below shows the Safety Factors at the time of installation, Safety Factors after 1/3 reduction, and wind speeds associated with reduced Safety Factors

Data From GO 95, Rule 44: Safety Factors (SF)

Element of Line	SF (New) Grade "B"	SF After 1/3 Reduction*	Wind speed associated with reduced SF**
Conductors, splices and conductor fastenings	2	1.33	65
Pole line hardware	2	1.33	65
Line insulators	2	1.33	65
Guys, except in light loading rural districts	2	1.33	65
Guys in light loading rural districts	1.5	1.00	56
Messengers and span wires	2	1.33	65
Wood Poles	3	2.00	79
Steel Poles	1.25	1.00	56
Wood Crossarms	2	1.33	65

* Rule 44.3 allows a 1/3 reduction in safety factor due to deterioration or attachment of additional load

** Safety factors should not be used to account for additional load. In this case, it is assumed that the remaining safety factor is used to account for wind only (no variability in the wood, no deviations in design or construction, etc.)

Conclusion



- SDG&E, under its statutory authority, has protocols and procedures in place to shut off power to protect public safety if wind speeds exceed General Order 95 design standards or hazardous conditions are observed.
 - ▶ SDG&E's system has been designed to withstand 56 mph wind for wood pole circuits and 85 mph for steel pole circuits
- SDG&E will continue supporting the CPUC Order Instituting Rulemaking (OIR) to improve fire safety regulatory requirements.
- SDG&E will continue working with stakeholders to collaborate on future fire prevention activities for SDG&E and the community.