Bear Valley Electric Service
Proactive De-energization Policy
• Bear Valley Electric Service (BVES) serves 24,323 customers in a 32-square mile service area.

• BVES’ service area is under the jurisdictional responsibility of City of Big Bear Lake and some areas (unincorporated) under the responsibility of the County of San Bernardino that have overhead and underground lines, distribution circuits, substations and a natural gas fueled generation facility.

• BVES’ service area is in the “High Fire-Threat District” as defined by California Public Utilities Commission (CPUC). This invokes additional inspection, line clearance, repair, emergency planning, and construction regulations.

• The service area is entirely above 3,000’, requiring all construction to meet “heavy” loading standards.
California’s Wildlife Risk

- Year-Round Fire Season: changes to California’s climate mean the traditional “fire season” no longer exists
- Hazardous fuel is building up due to many trees that have been killed or weakened by bark beetle damage or drought (tree mortality in California is at its highest level)
BVES Practices for a Safe & Reliable Grid

BVES works year-round to strengthen and protect against natural and man-made threats

- BVES is working to reduce wildfire risk, we continually seek options to enhance our efforts through:

  ✓ Stringent Construction Standards
  ✓ “Fail Safe” System Design
  ✓ Pro-active Operations and Maintenance (O&M) Programs
  ✓ Operating Procedures and Staff Training

What we aim to prevent!
Vegetation Management

BVES’ Tree Trimming Program is designed to enhance public safety, prevent fires and improve electric grid reliability. Proactive and aggressive vegetation management is first line of defense. Elements of our line clearance standards include:

- **Blue Sky** above 34 kV sub-transmission lines.
- **Minimum Line Clearance**: Vegetation within 72” of bare conductors is trimmed to 12’.
- **Fast Growing Species**: trimmed to 12’ or more and removal is evaluated and removed, if deemed necessary.
- **Drip Line**: Trees within the drip line of primary wires are proactively removed or trimmed such that they do not violate 72” line clearance between trimming cycles.
- **Suspect Trees**: Unhealthy/dead trees that pose a threat of falling into bare conductors are pro-actively evaluated for removal and removed, if deemed necessary.
- **Tree Trunks**: Mature trees whose trunks and major limbs are located less than the required clearance from bare conductors are to be no less than 18” away and the trunk or limb must be at least 18” in diameter.
Inspection of Distribution Facilities

In compliance with CPUC regulations, BVES established an inspection program that requires overhead facilities to undergo a detailed inspection at least every five years and a patrol inspection every year.

- **Detailed inspection** is one where individual pieces of equipment and structures are carefully examined and the condition of each rated and recorded.
- **Patrol Inspection** is a simple visual inspection, of applicable utility equipment and structures, that is designed to identify obvious structural problems and hazards.
- Defects and other issues that have been identified and characterized and repaired and/or resolved in a prioritized manner not to exceed CPUC directed timeframes.
- Priority is given to repairing/resolving safety hazards or potential violations that create a fire risk.
Fire and Severe Weather Monitoring

BVES Monitors Several Weather Sources

• National Fire Danger Rating System (NFDRS) for 7-day fire threat outlook.
• National Weather Service advisories
• Local weather forecasts

NFDRS

• Provides 7-day outlook on fuel dryness & high risk days.
• Monitored at least daily
• Drives operational decision making
• https://gacc.nifc.gov/oscc/predictive/weather/index.htm#p

Weather Stations

• BVES installing on “at risk” circuits
• Collect hi-resolution local weather data
• Enable more precise forecasting and operations
Conditional Operations

- From November 1 through March 31 focus is on reliability with higher load settings to accommodate higher loads and colder temperatures and reclosures set to automatic.
- From April 1 through October 31, BVES adopts a more defensive operational scheme:
  - Fuse TripSavers set to non-automatic operation
  - Auto Reclosures field trip settings reduced to lower summer load
  - Radford 34kV line is de-energized

<table>
<thead>
<tr>
<th>Operational Action</th>
<th>Green</th>
<th>Yellow</th>
<th>Brown</th>
<th>Orange</th>
<th>Red</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circuit Reclosure Settings</td>
<td>Automatic</td>
<td>Automatic</td>
<td>Non-Automatic</td>
<td>Non-Automatic</td>
<td>Non-Automatic</td>
</tr>
<tr>
<td>Patrol following circuit outage</td>
<td>No*</td>
<td>No*</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>TripSavers</td>
<td>Automatic</td>
<td>Automatic</td>
<td>Non-Automatic</td>
<td>Non-Automatic</td>
<td>Non-Automatic</td>
</tr>
<tr>
<td>Proactive De-energization (PDE)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes – “at risk” circuitry</td>
<td></td>
</tr>
</tbody>
</table>

*No patrol is required. Re-test allowed following check of fault indicators, SCADA, other system indicators, and reports from the field. If the re-test fails, a patrol is mandatory.

- However, in addition to seasonal actions, BVES monitors NFDRS fire danger forecast and determines the proper operational focus from reliability to fire prevention daily.
  - “Brown”, “Red”, and “Orange” are considered elevated fire threat conditions that require BVES system to be configured for fire prevention over reliability (even during winter months)
Proactive De-energization (PDE)

BVES puts public safety at the forefront of operational practices and may de-energize certain portions of the grid in high-risk areas when extreme fire conditions present imminent danger to public safety.

- BVES has identified 7 high-risk areas potentially affecting up to about 20% of its customers
  - Depending on conditions some or all of these areas may be affected
  - Localized weather conditions will be considered
- PDE is intended to reduce fire risk in high-risk areas (‘at risk’ areas)
  - Outages are not something we take lightly
  - Utilized when extreme fire conditions present imminent danger to public safety
  - Very high dry winds combined with dry fuel conditions is the principal trigger
- BVES will make every effort to notify customers and local government ahead of time, especially critical care and medical baseline customers
- Power restoration will occur after conditions have improved and safety checks have been performed
Seven High-Risk Fire Areas

High-risk areas that may be de-energized when extreme fire conditions present imminent danger to public safety.

<table>
<thead>
<tr>
<th>Circuit</th>
<th>Number of Customers</th>
<th>Downline From Device</th>
<th>Life-Support Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Shore</td>
<td>974</td>
<td>AR 805</td>
<td>2</td>
</tr>
<tr>
<td>Boulder</td>
<td>1124</td>
<td>AR 105</td>
<td>1</td>
</tr>
<tr>
<td>Lagonita</td>
<td>916</td>
<td>AR 145</td>
<td>4</td>
</tr>
<tr>
<td>Clubview</td>
<td>725</td>
<td>AR 424</td>
<td>0</td>
</tr>
<tr>
<td>Goldmine</td>
<td>935</td>
<td>AR 405</td>
<td>4</td>
</tr>
<tr>
<td>Erwin</td>
<td>189</td>
<td>AR 1128</td>
<td>2</td>
</tr>
</tbody>
</table>

Powering The Mountain Since 1929
BVES considers many factors before making the decision to de-energize the grid. Factors include but are not limited to, the following:

• Design strength and other characteristics of distribution overhead facilities
• Vegetation density
• National Fire Danger Rating System (NFDRS) for 7-day fire threat outlook.
• National Weather Service advisories
• Local weather forecasts and advisories
• Information from weather stations (when installed)
• Real-time information from trained personnel positioned in high-risk areas
• Input from state and local authorities and Emergency Management Personnel
PDE Policy – Forecasted Extreme Fire Weather

Forecasted Extreme Fire Weather Conditions

• Notifications
  ✓ BVES will notify local government and agencies first
  ✓ BVES will post on its website and social media platform notification of possible power shutoffs
  ✓ BVES will issue a press release to local media (newspaper and radio) on the situation

• Actions
  ✓ Service crew will monitor existing wind speed at “at risk” locations and internally communicate with Field Operations Supervisor to determine action to be taken and Customer Service for accurate communications.
PDE Policy – Imminent Extreme Fire Weather

Imminent Extreme Fire Weather Conditions

• Notifications
  ✓ Continue to coordinate closely with local government and agencies
  ✓ Update website and social media platform with a notification of the strong potential for imminent power shutoff
  ✓ Update press release to local media (newspaper and radio) on the situation

• Actions
  ✓ Service crews monitor various field conditions for extreme fire weather and dangerous conditions throughout service territory and in the “at risk” areas
  ✓ Crews may de-energize any line they evaluate as a danger or imminent danger to public safety
PDE Policy – Validated Extreme Fire Weather

Validated Extreme Fire Weather Conditions

• Notifications

  ✓ Notify local government, agencies and customers
  ✓ Customers will be notified by BVES’ Interactive Voice Response (IVR) proactive calling system, website and social media postings
  ✓ Update website and social media platform with a notification of the strong potential for imminent power shutoff
  ✓ Update press release to local media (newspaper and radio) on the situation

• Actions

  ✓ Shut off power to the affected “at risk” areas
  ✓ Service crews patrol throughout service territory and “at risk” areas
  ✓ Crews may de-energize additional lines they evaluate as a danger or imminent danger to public safety
PDE Policy – Weather Subsides to Safe Levels

Weather Subsides to Safe Levels (Validated)

• Notifications
  ✓ Notify local government, agencies and customers
  ✓ Customers will be notified by BVES’ Interactive Voice Response (IVR) proactive calling system, website and social media postings
  ✓ Update website and social media platform with a notification of power restoration.
  ✓ Update press release to local media (newspaper and radio) on the situation.

• Actions
  ✓ Service crews conduct field inspections and patrols of affected facilities
  ✓ Power is restored as each de-energized circuit is inspected and verified safe to energize
Recognizing that Bear Valley local governments may need to implement their own emergency plans, BVES will make every attempt to provide advance notice to our agency partners

• Notice to Bear Valley local government/agency partners two hours prior to executing customer notifications.

• Notifications:
  • All notifications will be sent to contacts provided by the agency using email, phone call and/or text as requested
  • Crews will monitor the situation and be available to respond to city and county emergency personal, including requests to restore service in response to emergency situations
Customer PDE Notification

Notification may occur via email, telephone calls, Interactive Voice Response (IVR) proactive calling system, website and social media in advance of and during de-energization events.

Local media will also be provided press released on conditions.

During a de-energization event, BVES provides:
• 24 hour contact information – 1-800-808-2837
• Info will be posted to www.BVES.com and on BVES Facebook
Q & A