

## PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



July 2, 2009

Ken Markling, Operations and Planning Manager  
Bear Valley Electric Service  
42020 Garstin Drive  
P.O. Box 1547  
Big Bear Lake, CA 92315

**CPUC File No.: E2009-08**

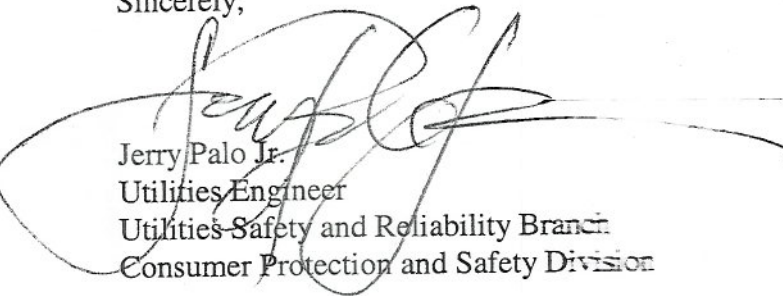
**SUBJECT:** General Order (GO) 165 Compliance Audit of Bear Valley Electric Service (BVES)

On behalf of the Utilities Safety and Reliability Branch of the California Public Utilities Commission, Cynthia Lee and I conducted an electric audit of Bear Valley Electric Service from May 12 – 15, 2009. The audit included a review of Bear Valley Electric Service's GO 165 inspection program and field inspections of the city.

During the audit, we identified violations of General Order 95, 128 and 165. A copy of the inspection summary itemizing the violations is enclosed. Please advise me no later than August 3, 2009, by electronic or hard copy of all corrective measures taken by Bear Valley Electric Service regarding the violations and the date they were corrected.

If you have any questions, please contact me at (213) 576-5719.

Sincerely,



Jerry Palo Jr.  
Utilities Engineer  
Utilities Safety and Reliability Branch  
Consumer Protection and Safety Division

Enclosure: Compliance Audit Summary

## Compliance Audit Summary

### A. General Order (GO) 165

“The purpose of this General Order is to establish minimum requirements for electric distribution facilities, regarding inspection (including maximum allowable inspection cycle lengths), condition rating, scheduling and performance of corrective action, record-keeping, and reporting, in order to ensure safe and high-quality electrical service...”

Three elements from the Bear Valley Electric Service (BVES) GO 165 inspection program were deficient:

#### 1. Detailed Inspection Cycle

Records were insufficient in documenting the condition of inspected equipment, as well as the scheduled dates of corrective action for any problems identified during the inspections.

#### 2. Patrol Inspection Cycle

Records did not reveal that patrol inspections were performed between 2004 and 2008.

#### 3. Scheduled Maintenance

Although a priority system is in place, there was no consistency in adhering to the schedule of maintenance the priority system created.

**B. The following GO 95 violations were found during the field portion of the compliance audit to verify the overhead inspection program. These poles were recently inspected by BVES.**

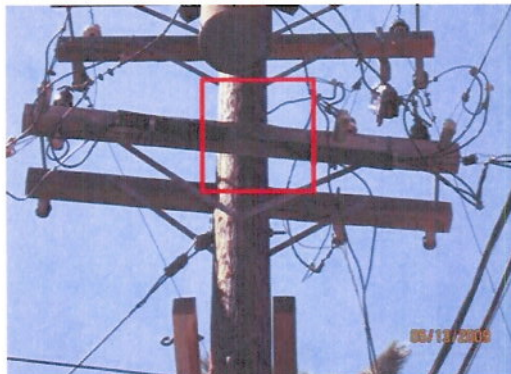
**1. GO 95, Rule 31.1 Design, Construction and Maintenance**

“Electrical supply and communication systems shall be designed, constructed, and maintained for their intended use, regard being given to the conditions under which they are to be operated, to enable the furnishing of safe, proper, and adequate service.

“For all particulars not specified in these rules, design, construction, and maintenance should be done in accordance with accepted good practice for the given local conditions known at the time by those responsible for the design, construction, or maintenance of [the] communication or supply lines and equipment.”

The following poles had lines and/ or portions of line that were not being maintained for their intended use:

- a) Pole 4644BV had damaged weathering on secondary conductors.
- b) Pole 4922BV had a broken secondary rise moulding. (See **Picture 1**)



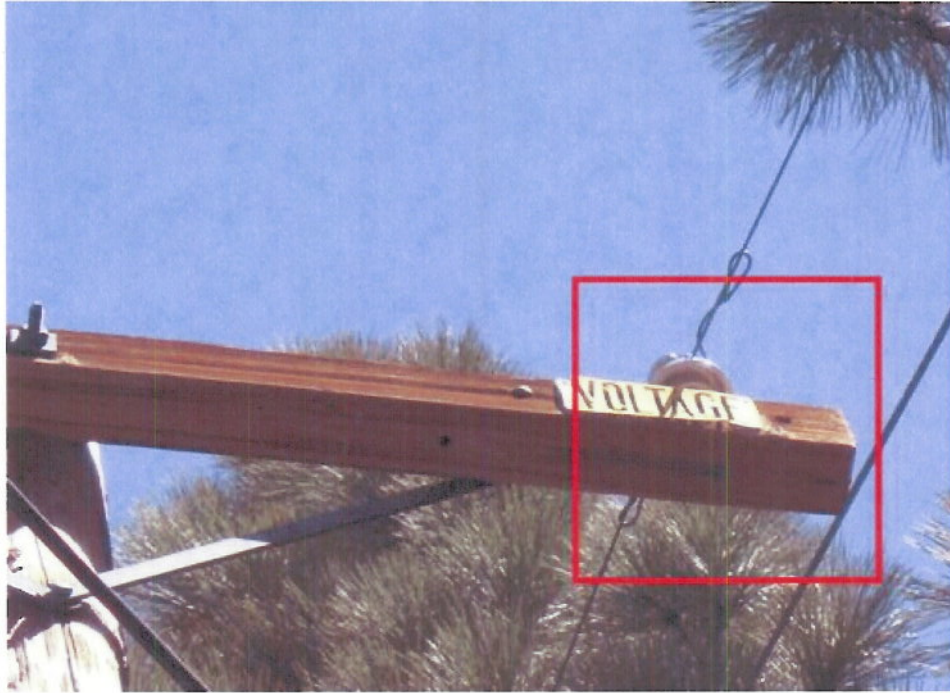
**Picture 1**

- c) Pole 31518CIT had exposed service drop conductors connected to 1162 Brookside Lane's weather head. (See **Picture 2**)



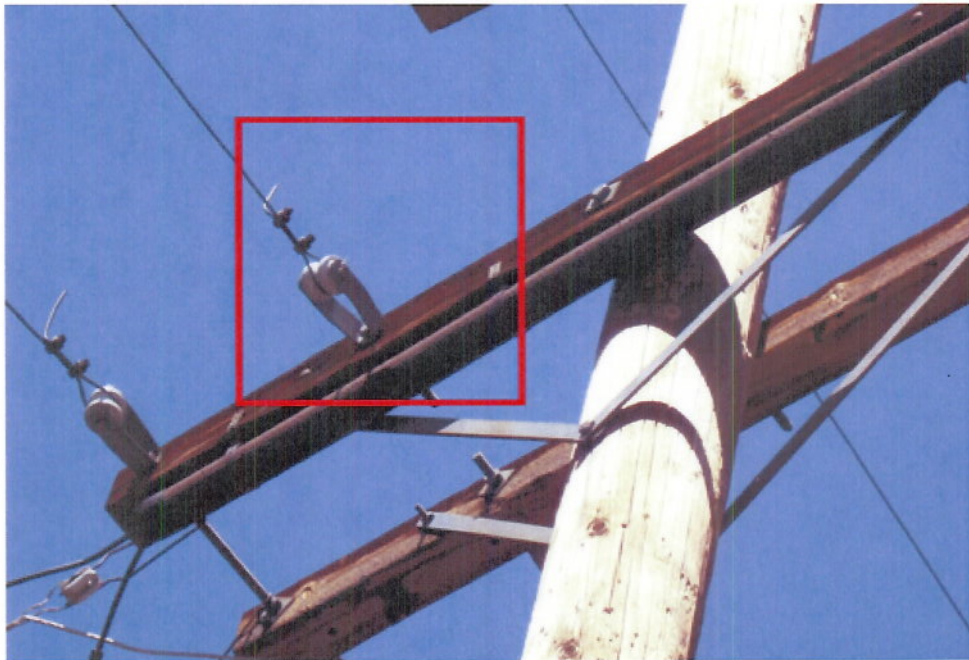
**Picture 2**

- d) Pole 8153BV had a missing washer on the throughbolt supporting a crossarm insulator. (See **Picture 3**)



**Picture 3**

- e) Pole 8051BV had a loose crossarm insulator. (See **Picture 4**)



**Picture 4**

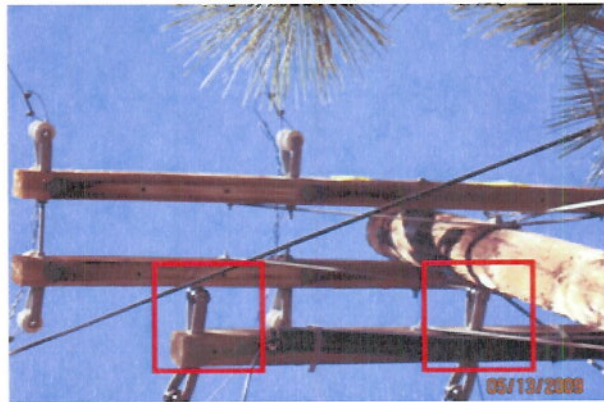
- f) Pole 8063BV had a missing washer on the throughbolt supporting a crossarm insulator.

## 2. GO 95, Rule 31.6 Abandoned Lines

“Lines or portions of lines permanently abandoned shall be removed by their owners so that such lines shall not become a public nuisance or a hazard to life or property. For the purposes of this rule, lines that are permanently abandoned shall be defined as those lines that are determined by their owner to have no foreseeable future use.”

The following poles had lines or portions of lines permanently abandoned:

- a) 4644BV had two abandoned insulators. (See **Picture 5**)



**Picture 5**

- b) 4922BV had two abandoned insulators.
- c) 9216BV had an abandoned insulator.
- d) There were 5 abandoned J-hooks (pictured below) on a tree adjacent to pole 31518CIT. (See **Picture 6**)



**Picture 6**

### 3. GO 95, Rule 34 Foreign Attachments

“Nothing in these rules shall be construed as permitting the unauthorized attachment, to supply, street light or communication poles or structures, of antennas, signs, posters, banners, decorations, wires, lighting fixtures, guys, ropes and any other such equipment foreign to the purposes of overhead electric line construction...”

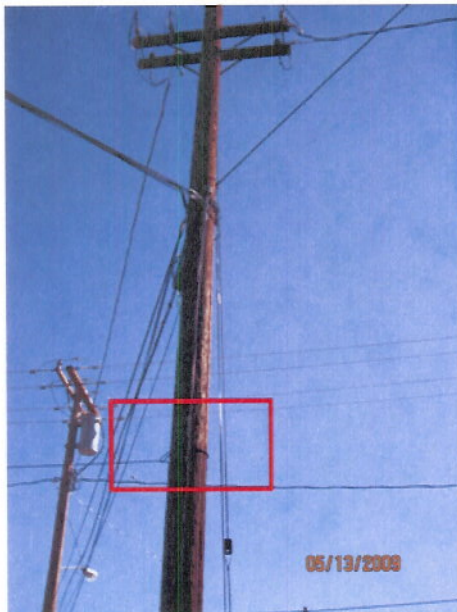
The following poles had unauthorized attachments:

- a) 8065BV (pictured below) and 8063BV had similar attachments. (See Picture 7)



Picture 7

- b) BV7104 had an unidentified cable attached to the pole. (See Pictures 8 and 9)



Picture 8



Picture 9

### 4. GO 95, Rule 35 Tree Trimming

“Where overhead wires pass through trees, safety and reliability of service demand that tree trimming be done in order that the wires may clear branches and foliage by a reasonable distance. The minimum clearances established in Table 1, Case 13,

measured between line conductors and vegetation under normal conditions, shall be maintained. (Also see Appendix E for tree trimming guidelines.)...

“...Communication and electric supply circuits, energized at 750 volts or less, including their service drops, should be kept clear of limbs and foliage, in new construction and when circuits are reconstructed or repaired, whenever practicable. When a utility has actual knowledge, obtained either through normal operating practices or notification to the utility, that any circuit energized at 750 volts or less shows strain or evidences abrasion from tree contact, the condition shall be corrected by slacking or rearranging the line, trimming the tree or placing mechanical protection on the conductor(s). For the purpose of this rule, abrasion is defined as damage to the insulation resulting from the friction between the tree and conductor. Scuffing or polishing of the insulating covering is not considered abrasion. Strain on a conductor is present when there is additional tension causing a deflection of the conductor beyond the slack of the span. Contact between limbs and these conductors, in and of itself, does not constitute a violation of the rule.”

The following poles had issues with vegetation clearance/contact:

- a) Pole BV11689 had an encroaching tree branch at the primary conductor level.  
(See **Picture 10**)



**Picture 10**

- b) Pole 8151BV had a secondary service drop showing strain from tree contact due to a misplaced tree guard.
- c) The following poles had secondary service drop(s) showing strain from tree contact:
- 4644BV
  - 31519CIT
  - BV11689 (See **Picture 11**)
  - 8153BV

- 9410BV
- 8133BV
- 8132BV
- 8131BV
- 8065BV
- 8063BV

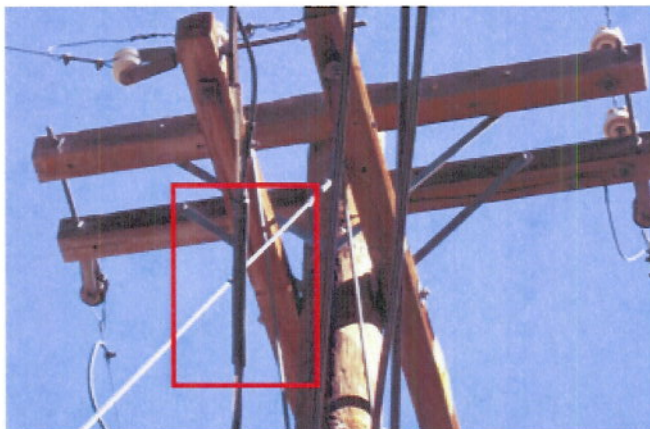


**Picture 11**

**5. GO 95, Rule 38 Minimum Clearances of Wires from Other Wires**

“The minimum vertical, horizontal or radial clearances of wires from other wires shall not be less than the values given in Table 2...”

- a) Pole BV4642 had the down guy wire touching a communication cable.
- b) Pole BV4643 had the down guy wire touching a secondary service drop.  
(See Picture 12)



**Picture 12**

- c) Pole 31518CIT had the secondary service drop touching a communication cable.  
(See Picture 13)





Picture 13

**6. GO 95, Rule 51.6A High Voltage Marking of Poles states:**

“Poles which support line conductors of more than 750 volts shall be marked with high voltage signs. This marking shall consist of a single sign showing the words “HIGH VOLTAGE”, or pair of signs showing the words “HIGH” and “VOLTAGE”, not more than six (6) inches in height with letters not less than 3 inches in height. A pair of signs may be stacked to a height of no more than 12 inches. Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out there from and clearly legible.”

The following poles had damaged or missing high voltage signs:

- 9217BV
- 9215BV
- 8132BV

**7. GO 95, Rule 51.7 Stepping**

“The lowest step on any stepped pole, tower or structure shall be not less than 7 feet 6 inches from the ground line and above this point the spacing between steps on the same side of pole, tower or structure shall not exceed 36 inches.”

- a) Pole 6922BV had a step less than 7 feet 6 inches.
- b) Pole 7744BV had a low step. This finding was corrected during the audit by removing the low step.

## 8. GO 95, Rule 54.6B Ground Wires

“That portion of the ground wires attached on the face or back of wood crossarms or on the surface of wood poles and structures shall be covered by a suitable protective covering (see Rule 22.8)...”

The following poles had damaged or missing ground mouldings:

- BV9531 (See Picture 14)
- BV9530
- CIT60513
- 4968BV
- 9214BV
- 7744BV
- 8132BV
- 8266BV
- 8151BV
- 8151BV
- 8064BV



Picture 14

## 9. GO 95, Rule 54.6I Attachment of Protective Covering

“Protective covering shall be attached to poles, structures, crossarms, and other supports by means of corrosion-resistant materials (straps, plumbers tape, lags, nails, staples, screws, bolts, etc.) which are adequate to maintain such covering in a fixed position.

Where such covering consists of wood moulding, rigid plastic moulding, or other suitable protective moulding, the distance between the attachment materials (straps, plumbers tape, lags, nails, staples, screws, bolts, etc.) shall not exceed 36 inches on either side of the moulding.”

The following poles exceeded 36 inches between the attachment materials:

- BV10249
- 9214BV (See Picture 15)
- 8266BV

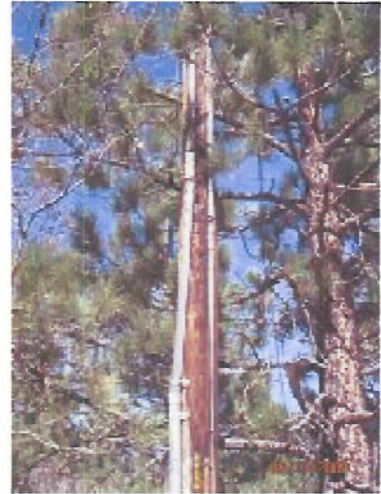


Picture 15

## 10. GO 95, Rule 54.7 Climbing and Working Space

“Climbing space shall be maintained from the ground level. Climbing space, measured from center line of pole, shall be provided on one side or in one quadrant of all poles or structures...”

Pole 6922BV had climbing space obstructed by a tree.  
(See Picture 16)



Picture 16

## 11. GO 95, Rule 54.8B(1) Above Public Thoroughfares

“Service drop conductors shall have a vertical clearance of not less than 18 feet above public thoroughfares, except that this clearance may grade from 18 feet at a position not more than 12 feet horizontally from the curb line to a clearance of not less than 16 feet at the curb line, provided the clearance at the centerline of any public thoroughfare shall in no case be less than 18 feet. Where there are no curbs the foregoing provisions shall apply using the outer limits of possible vehicular movement in lieu of a curb line.”

- a) Pole BV9532 had a vertical clearance of 15 feet 3 inches at the center of the road.
- b) Pole 31519CIT had a vertical clearance of 14 feet 8 inches at the center of the road.

## 12. GO95, Rule 54.8B(4)(a) Clearances about Ground, Buildings, Etc.

This rule requires a minimum clearance of 0.5 inches from Table 10.

Pole 31518CIT had a secondary service drop deflected by 1161 Brookside Lane’s roof. (See Picture 17)



Picture 17

### 13. GO 95, Rule 56.2 Use of Guys

“Where mechanical loads imposed on poles, towers, or structures are greater than can be supported with safety factors as specified in Rule 44, additional strength shall be provided by the use of guys or other suitable construction...

...Guys shall be attached to structures, as nearly as practicable, at the center of load. They shall be maintained taut and of such strength as to meet the safety factors of Rule 44.”

The following poles had a slack down guy wires:

- CTC2211025
- 9218BV
- 9411BV
- 8062BV

Pole BV4642 had a bent guy anchor, resulting in the guy to be slack.  
(See Picture 18)



Picture 18

### 14. GO 95, Rule 56.9 Guy Marker

“A substantial marker of suitable material, including but not limited to metal or plastic, not less than 8 feet in length, shall be securely attached to all anchor guys. Where more than one guy is attached to an anchor rod, only the outermost guy is required to have a marker.”

The following poles had broken or missing guy markers:

- BV11258
- 4644BV
- 9500BV
- BV11463
- 8062BV

### 15. GO 95, Rule 91.3A(1) Use of Steps for Poles with Vertical Runs or Risers

“All jointly used poles which support supply conductors shall be provided with pole steps if vertical runs or risers are attached to the surface of such poles...”

The following poles were missing pole steps:

- BV9530
- BV4783
- BV9533
- CIT60513
- BV11466
- BV11704
- 9214BV

C. The following GO 128 violations were found during the field portion of the compliance audit to verify the underground inspection program. These facilities were recently inspected by BVES.

1. GO 128, Rule 34.3A Strength, states:

“The equipment case or enclosure shall be secured in place and be of sufficient strength to resist entrance or damage to the equipment by unauthorized persons.”

The following padmount transformer equipment needs to be secured by bolts or other means:

- 1217250402
- 97J43104
- 949005374
- 911078518

2. GO 128, Rule 34.3B Guarding Live Parts, states:

“Compartments and enclosures which will, during normal operation, contain exposed live parts shall be designed and installed to prevent a person from passing a wire or other conducting material into such compartment from the outside when it is closed. This requirement is not intended to prevent normal work operations such as fishing ducts and installing cable.”

The following padmount transformer equipment has openings accessible to the public:

- a) 1217250402 (See Picture 19)



Picture 19

b) 911078518 (See Picture 20)



Picture 20

**3. GO 128, Rule 35.3 Warning Signs, states:**

“Warning signs indicating high voltage shall be installed on an interior surface, or barrier if present, inside the entrance of vaults, manholes, handholes, pad mounted transformer compartments, and other above ground enclosures containing exposed live parts above 750 volts. Such warning signs shall also be installed on an exterior surface of all such pad mounted transformer compartments and other above ground enclosures. Such signs shall be clearly visible to a person in position to open any such access door, other opening, or barrier.”

The following padmount transformer equipment needs warning signs on the interior surface:

- 1217250402
- 949005374
- 911078518

In addition, equipment 949005374 needs a warning sign on the fenced access door.

**D. Other Observations/Concerns:**

1. Pole CIT60513 may have an ant infestation at the base of the pole. The pole should undergo intrusive testing to determine the safety factor to ensure compliance with GO 95 Rule 44.2. (See Picture 21)



Picture 21

- Surface equipment adjacent to pole 10237BV, located in the parking lot of Bear Mountain Ski Resort, 43101 Goldmine Drive, Big Bear Lake, should be protected from accidental damage by vehicular traffic by installing barricades. (See Pictures 22 and 23)



Picture 22



Picture 23

- While inspecting underground equipment with Dan Gutierrez, we found that he was not wearing personal protective equipment (PPE), such as a pair of gloves or a hard hat. When accessing any electrical equipment, workers should wear the appropriate PPE to guard against potential safety hazards. (See Picture 24)



Picture 24

- Pole 4922BV had a secondary service drop connected to a bent weather head with a missing cap. (See Picture 25)



Picture 25