

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
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December 23, 2021

EA2021-925

Jason Harston
Engineering and Operations Manager
Plumas Sierra Rural Electric Cooperative
73233 State Route 70, Suite A
Portola, CA 96122

SUBJECT: Electric Distribution Audit of Plumas Sierra Rural Electric Cooperative (Plumas Sierra) - Portola

Dear Mr. Harston:

On behalf of the Electric Safety and Reliability Branch (ESRB) of the California Public Utilities Commission (CPUC), Brandon Vazquez, Stephen Lee, and Monica Hoskins of ESRB staff conducted an electric distribution audit of Plumas Sierra's electric facilities from November 15, 2021 through November 19, 2021. During the audit, ESRB staff conducted field inspections of Plumas Sierra's distribution facilities and equipment and reviewed pertinent documents and records.

As a result of the audit, ESRB staff identified violations of one or more General Orders (GOs). A copy of the audit findings itemizing the violations is enclosed. Please provide a response no later than January 20, 2022, by electronic copy of all corrective actions and preventive measures taken by Plumas Sierra to correct the identified violations and prevent the recurrence of such violations. The response should indicate the date of each remedial action and preventive measure completed. For any outstanding items not addressed, please provide the projected completion dates of all corrective actions for the violations outlined in Sections II & IV, and field observations given in Section V of the enclosed Audit Findings.

If you have any questions concerning this audit, please contact Brandon Vazquez at (415) 703-1076 or brandon.vazquez@cpuc.ca.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Banu Acimis".

Banu Acimis, P.E.
Program and Project Supervisor
Electric Safety and Reliability Branch
Safety and Enforcement Division
California Public Utilities Commission

Enclosure: CPUC Electric Distribution Audit Report of Plumas Sierra

Cc: Lee Palmer, Director, Safety and Enforcement Division, CPUC
Nika Kjensli, Program Manager, ESRB, SED, CPUC
Nathan Sarina, Senior Utilities Engineer (Supervisor), ESRB, SED, CPUC
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Brandon Vazquez, Utilities Engineer, ESRB, SED, CPUC
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Monica Hoskins, Utilities Engineer, ESRB, SED, CPUC

**PLUMAS SIERRA RURAL ELECTRIC COOPERATIVE
ELECTRIC DISTRIBUTION AUDIT FINDINGS
November 15-19, 2021**

I. Records Review

During the audit, ESRB staff reviewed the following records:

- Completed work orders with notifications from the past 12 consecutive calendar months, canceled work orders with notifications from the past 12 consecutive calendar months, and open and late work orders from the past 60 consecutive calendar months.
- Patrol and detailed inspection records from the past 60 consecutive calendar months.
- Master Map displaying approximate locations of the plat maps administered by the Division.
- New Construction (both overhead and underground) projects in the last 12 months not subject to a patrol or detailed inspection.

II. Records Violations

ESRB staff observed the following violations during the record review portion of the audit:

1. GO 95, Rule 18-B, Maintenance Programs states in part:

“Each company (including electric utilities and communications companies) shall establish and implement an auditable maintenance program for its facilities and lines for the purpose of ensuring that they are in good condition so as to conform to these rules. Each company must describe in its auditable maintenance program the required qualifications for the company representatives who perform inspections and/or who schedule corrective actions. Companies that are subject to GO 165 may maintain procedures for conducting inspections and maintenance activities in compliance with this rule and with GO 165.

The auditable maintenance program must include, at a minimum, records that show the date of the inspection, type of equipment/facility inspected, findings, and a timeline for corrective actions to be taken following the identification of a potential violation of GO 95 or a Safety Hazard on the company’s facilities.”

GO 128, Rule 12.2, Maintenance states:

“Systems shall be maintained in such condition as to secure safety to workmen and the public in general. Systems and portions thereof constructed, reconstructed, or replaced on or after the effective date of these rules shall be kept in conformity with the requirement of these rules.

A. Electric Supply System - An Auditable and consistent maintenance program, see Rule 22.4, shall be in place to minimize deterioration of underground equipment.”

GO 128, Rule 22.4, A Maintenance Program states:

“A Maintenance Program means a written policy that shall include the following key elements:

- (1) Inspection intervals*
- (2) Rejection criteria*
- (3) Corrective actions”*

GO 165, Section III-C, Record Keeping states in part:

“For all inspections records shall specify the circuit, area, facility or equipment inspected, the inspector, the date of the inspection, and any problems (or items requiring corrective action) identified during each inspection, as well as the scheduled date of corrective action.”

Plumas Sierra has not established and implemented a written auditable maintenance program for its overhead and underground electric facilities. Plumas Sierra must develop a written maintenance program for its overhead and underground facilities that contains the following criteria:

- Describe the required qualifications for the company representatives who perform inspections and/or who schedule corrective actions
- Include a timeline for corrective actions to be taken following the identification of a potential violation of GO 95 or a Safety Hazard
- Document required inspection intervals
- Include whether the Safety Hazard or potential violation is located in a High Fire-Threat District
- Outline procedures for notifying third party companies regarding potential violations of GO 95 resulting from the third-party communication or electric facilities. Additionally, both outgoing notifications and incoming third-party notifications must be retained for at least ten years.

2. GO 95, Rule 44.1, Installation and Reconstruction states:

“Lines and elements of lines, upon installation or reconstruction, shall provide as a minimum the safety factors specified in Table 4. The design shall consider all supply and communication facilities planned to occupy the structure. For purposes of this rule, the term “planned” applies to the facilities intended to occupy the structure that are actually known to the constructing company at the time of design.

The entity responsible for performing the loading calculation(s) for an installation or reconstruction shall maintain records of these calculations for the service life of the pole or other structure for which a loading calculation was made and shall provide such information to authorized joint use occupants and the Commission upon request.”

Plumas Sierra performed a reconstruction project of multiple poles in Beckwourth under Work Order 20210449. Plumas Sierra indicated that they did not perform pole loading calculations for the entirety of this project. Plumas Sierra must perform pole loading calculations in accordance with Rule 44.1 for all new installations and reconstructions of lines and elements of lines.

3. GO 165, Section III-D, Reporting states:

“By July 1st each utility subject to this General Order shall submit an annual report for the previous year under penalty of perjury.

The report shall list four categorical types of inspections: Patrols, Overhead Detailed, Underground Detailed and Wood Pole Intrusive. The report shall denote the total units of work by inspection type for the reporting period and the number of outstanding (not completed) inspections within the same reporting period for each of the four categories.”

Plumas Sierra has not submitted its GO 165 annual reports to the Commission after 2017. Plumas Sierra must continue submitting the GO 165 annual reports to the Commission by July 1st of each year.

III. Field Inspection

During the field inspection, ESRB staff inspected the following facilities:

Location	Equipment Number	Structure Type	Approximate Location	City
1	7490	Pole	Meadowlark Lane	Clio
2		Pole	One span northwest of Location 1	Clio
3	3440	Pole	Near Chandler Rd	Quincy
4	3441	Pole	Near Chandler Rd	Quincy
5		Pole	Johnson's Metal Recycling	Quincy
6	3455	Pole	One span east of Location 5	Quincy
7	3454	Pole	Two spans east of Location 5	Quincy
8	4038	Pole	Squirrel Creek Rd and CA-89	Quincy
9	4039	Pole	One span northwest uphill of Location 8	Quincy
10	4040	Pole	Two spans northwest uphill of Location 8	Quincy
11	4041	Pole	Three spans northwest uphill of Location 8	Quincy
12	4042	Pole	Four spans northwest uphill of Location 8	Quincy
13	5033	Pole	Sierra Sky Lodge	Cromberg
14	5041	Pole	One span southeast of Location 13	Cromberg
15	5032	Pole	One span south of Location 13	Cromberg
16	5036	Pole	One span west of Location 15	Cromberg
17	51488	Padmount Transformer	The Cabin at Long Valley Ranch	Cromberg
18	7065	Pole	Intermountain Disposal	Graeagle
19	7064	Pole	One span west of Location 18	Graeagle
20	7282	Pole	One span north of Graeagle Johnsonville Rd and CA-89	Graeagle
21	7283	Pole	Two spans north of Graeagle Johnsonville Rd and CA-89	Graeagle
22	7139	Pole	Graeagle Johnsonville Rd and CA-89	Graeagle
23	7140	Pole	Graeagle School House	Graeagle
24	7141	Pole	One span south of Location 23	Graeagle
25	9972	Pole	34 Tolowa Trail	Graeagle
26	9970	Pole	40 Tolowa Trail	Graeagle
27	9968	Pole	42 Tolowa Trail	Graeagle
28	7284	Pole	88 Yonkalla Trail	Graeagle
29	51187	Padmount Transformer	88 Yonkalla Trail	Graeagle
30	9101	Pole	88 Yonkalla Trail	Graeagle
31	9100	Pole	One span north of Location 28	Graeagle

32	9103	Pole	River Pines Resort	Graeagle
33	7570	Pole	49 Paiute Trail	Graeagle
34	7569	Pole	50 Paiute Trail	Graeagle
35	7571	Pole	54 Paiute Trail	Graeagle
36	7568	Pole	48 Paiute Trail	Graeagle
37	9680	Pole	CA 89	Clio
38	9681	Pole	One span E of Location 37	Clio
39	50002	Junction Box	330 Valley Ranch Drive	Clio
40	59592	Junction Box	330 Valley Ranch Drive	Clio
41	50020	Padmount Transformer	32 Cassidy Drive	Clio
42	50022	Junction Box	70 Cassidy Drive	Clio
43	50021	Padmount Transformer	70 Cassidy Drive	Clio
44	6011	Pole	CA 89	Clio
45	6012	Pole	One span east of Location 44	Clio
46	6014	Pole	Two spans east of Location 44, across 2388 CA 89	Clio
47	6013	Pole	Across 2399 CA 89	Clio
48	9289	Pole	284 Portola McLears Rd	Clio
49	9288	Pole	One span east of Location 48	Clio
50	9284	Pole	Two spans east of Location 48	Clio
51	59090	Junction Box	408 Red Sky	Portola
52	51830	Padmount Transformer	408 Red Sky	Portola
53	59095	Junction Box	Grizzly Ranch Rd and Peppergrass Ln	Beckwourth
54	53295	Junction Box	Grizzly Ranch Rd and Peppergrass Ln	Beckwourth
55	53296	Junction Box	Grizzly Ranch Rd and Peppergrass Ln	Beckwourth
56	11370	Pole	Maddalena Rd	Beckwourth
57	11375	Pole	Maddalena Rd	Beckwourth
58	11376	Pole	Maddalena Rd	Beckwourth
59	11635	Pole	Harrison Ranch Rd	Beckwourth
60	12315	Pole	Harrison Ranch Rd	Beckwourth
61	12316	Pole	Harrison Ranch Rd	Beckwourth
62	1264	Pole	KJL Fasteners	Chilcoot
63	52048	Padmount Transformer	KJL Fasteners	Chilcoot
64	11057	Pole	Golden Chain Hwy	Sattley
65	11054	Pole	141 Golden Chain Hwy	Sattley

66	11053	Pole	One span west of Location 65	Sattley
67	11668	Pole	CA 49 and CA 89	Sattley
68	11669	Pole	One span east of Location 67	Sattley
69	11675	Pole	One span south of Location 67	Sattley
70	7985	Pole	Three spans west of Poole Ln and Beckwith Rd	Loyalton
71	7984	Pole	Two spans west of Poole Ln and Beckwith Rd	Loyalton
72	8397	Pole	One span west of Poole Ln and Beckwith Rd	Loyalton
73	8398	Pole	Poole Ln and Beckwith Rd	Loyalton
74	6000	Pole	One span N of Poole Ln and Beckwith Rd	Loyalton
75	6994	Pole	Two poles west of Golden Chain Hwy	Loyalton
76	6995	Pole	Three poles west of Golden Chain Hwy	Loyalton
77	6996	Pole	Four poles west of Golden Chain Hwy	Loyalton
78	7909	Pole	Across 206 W Willow St	Sierraville
79	7912	Pole	Across 216 W Willow St	Sierraville
80	7958	Pole	Old Truckee Rd and Nichols Mill Rd	Sierraville
81	7957	Pole	One span east of Old Truckee Rd and Nichols Mill Rd	Sierraville
82	7959	Pole	Old Truckee Rd	Sierraville

IV. Field Inspection Violations

ESRB staff observed the following violations during the field inspection:

1. GO 95, Rule 31.1, Design, Construction and Maintenance states in part:

“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.”

- 1.1. The pole, one span northwest of the pole with equipment number 7490, on Meadowlark Lane in Clio (Location 2) had a woodpecker hole directly beneath the crossarm’s through bolt.
- 1.2. The pole at 54 Paiute Trail in Graeagle (Location 35), had a crossarm with indications of burn marks near the span closest to the transformer and along the crossarm’s hardware bonding wires.
- 1.3. The pole at KJL Fasteners in Chilcoot (Location 62), had a buried guy anchor head.
- 1.4. The switching platform used to operate the overhead switch on the pole, one span west of Poole Ln and Beckwith Rd in Loyalton (Location 72), was damaged.

2. GO 95, Rule 51.6-A, High Voltage Marking states in part:

“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. Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible.”

- 2.1. The pole with equipment number 4039 in Quincy (Location 9) had a damaged high voltage sign.
- 2.2. The pole at Intermountain Disposal in Graeagle (Location 18) had missing high voltage signs.
- 2.3. The pole at 50 Paiute Trail in Graeagle (Location 34) had a damaged high voltage sign.
- 2.4. The pole at 54 Paiute Trail in Graeagle (Location 35) had a missing high voltage sign on one side of the crossarm and a loose high voltage sign on the other side of the crossarm.

- 2.5. The pole with equipment number 9680 at CA-89 in Clio (Location 37) had damaged high voltage signs.
- 2.6. The pole with equipment number 6014 across from 2388 CA-89 in Clio (Location 46) had a damaged high voltage sign.
- 2.7. The pole with equipment number 12315 on Harrison Ranch Rd in Beckwourth (Location 60) had missing high voltage signs.
- 2.8. The pole with equipment number 12316 on Harrison Ranch Rd in Beckwourth (Location 61) had missing high voltage signs.
- 2.9. The pole at KJL Fasteners in Chilcoot (Location 62) had a damaged high voltage sign.
- 2.10. The pole, three spans west of Poole Ln and Beckwith Rd in Loyalton (Location 70), had damaged high voltage signs.
- 2.11. The pole, one span west of Poole Ln and Beckwith Rd in Loyalton (Location 72), had damaged high voltage signs.
- 2.12. The pole at Poole Ln and Beckwith Rd in Loyalton (Location 73) had a damaged high voltage sign.
- 2.13. The pole with equipment number 7959 along Old Truckee Rd in Sierraville (Location 82) had a missing high voltage sign.

3. GO 95, Rule 54.6-B, Vertical and Lateral Conductors, Ground Wires states in part:

“That portion of the ground wire 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).”

- 3.1. The pole with equipment number 6011 along CA-89 in Clio (Location 44) had a damaged protective covering that exposed the ground wire.
- 3.2. The pole, two spans east of 284 Portola McLears Rd in Clio (Location 50), had a damaged protective covering that exposed the ground wire.
- 3.3. The pole with equipment number 11370 along Maddalena Rd in Beckwourth (Location 56) had a damaged protective covering that exposed the ground wire.
- 3.4. The pole at KJL Fasteners in Chilcoot (Location 62) had a damaged protective covering that exposed the ground wire.

- 3.5. The pole at 141 Golden Chain Hwy in Sattley (Location 65) had a damaged protective covering that exposed the ground wire.
- 3.6. The pole with equipment number 6994 in Loyalton (Location 75) had a damaged protective covering that exposed the ground wire.
- 3.7. The pole, across 206 W Willow St in Sierraville (Location 78), had a damaged protective covering that exposed the ground wire.
- 3.8. The pole, across 216 W Willow St in Sierraville (Location 79), had a damaged protective covering that exposed the ground wire.

4. GO 95, Rule 56.4-C.(4), Clearances, Passing on Same Poles states in part:

“The radial clearances between guys and conductors supported by or attached to the same poles or crossarms shall not be less than as specified in Table 2, Case 19...”

- 4.1. The down guy on the pole with equipment number 3454, two spans east of Johnson’s Metal Recycling in Quincy (Location 7), was contacting the communication span.
- 4.2. The down guy on the pole at the intersection of Graeagle Johnsonville Rd and CA-89 in Graeagle (Location 22) was contacting the communication span.
- 4.3. The down guy on the pole with equipment number 11635 on Harrison Ranch Rd in Beckwourth (Location 59) was less than the required three inches from the overhead neutral conductor, shown below in Figure 1.



Figure 1: Down guy in proximity to the neutral conductor

5. GO 95, Rule 56.6-A, Guys in Proximity to Supply Conductors of Less than 35,500 Volts states in part:

“All portions of guys within both a vertical distance of 8 feet from the level of supply conductors of less than 35,500 volts and a radial distance of 6 feet from the surface of wood poles or structures shall not be grounded, through anchors or otherwise. Where necessary to avoid the grounding of such portions, guys shall be sectionalized by means of insulators installed at locations as specified in Rule 56.7.”

The pole with equipment number 5033 located at the Sierra Sky Lodge in Cromberg (Location 13) had vegetation contacting above the down guy insulator which provides a path to ground.

6. GO 128, Rule 34.3.B, 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 junction box at 70 Cassidy Drive (Location 42) had a missing testing point end cap that exposed the energized conductor on one of the elbows.

7. 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.”

- 7.1. The padmount transformer at The Cabin at Long Valley Ranch in Cromberg (Location 17) had an illegible warning sign on the enclosure’s exterior surface.
- 7.2. The junction box at 330 Valley Ranch Drive in Clio (Location 39) had illegible warning signs on the enclosure’s exterior surface.
- 7.3. The junction box at 330 Valley Ranch Drive in Clio (Location 40) had illegible warning signs on the enclosure’s exterior surface.
- 7.4. The padmount transformer at 32 Cassidy Drive in Clio (Location 41) had illegible warning signs on the enclosure’s exterior surface.

- 7.5. The junction box at 70 Cassidy Drive in Clio (Location 42) had illegible warning signs on the enclosure's exterior surface.
- 7.6. The padmount transformer at 70 Cassidy Drive in Clio (Location 43) had an illegible warning sign on the enclosure's exterior surface.
- 7.7. The junction box at the intersection of Grizzly Ranch Rd and Peppergrass Ln in Beckwourth (Location 54) had an illegible warning sign on the enclosure's exterior surface.

V. Field Observations

ESRB staff observed that the following locations had potential third-party safety concerns:

1. There was an abandoned TV cable located on the pole with equipment number 3454, two spans east of Johnson's Metal Recycling, in Quincy (Location 7).
2. There was strain from vegetation contacting the telephone line located on the pole with equipment number 5041, one span southeast of the Sierra Sky Lodge in Cromberg (Location 14).
3. The communication riser cable at 42 Tolowa Trail in Graeagle (Location 27) was not secured to the pole.
4. The communication riser cable at 49 Paiute Trail in Graeagle (Location 33) was not secured to the pole.