

## PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



September 10, 2021

EA2021-915/SA2021-916

Kevin Estabrook  
Shasta Lake Utility  
Electric Operations Manager  
4332 Vallecito Street  
Shasta Lake, CA 96019

**SUBJECT:** Electric Distribution and Substation Audits of Shasta Lake Utility

Dear Mr. Estabrook:

On behalf of the Electric Safety and Reliability Branch (ESRB) of the California Public Utilities Commission (CPUC), Samuel Mandell, Caroline Thierry, and Dmitriy Lysak of ESRB staff conducted an electric distribution and substation audits of Shasta Lake Utility's (SLU) Shasta Lake region from June 07, 2021, through June 11, 2021. During the audit, ESRB staff conducted field inspection of SLU's distribution facilities, substation 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 October 8, 2021, by electronic copy of all corrective actions and preventive measures taken by SLU 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 of the enclosed Distribution and Substation Audit Findings.

If you have any questions concerning this audit, please contact Samuel Mandell at (916) 217-8294 or [samuel.mandell@cpuc.ca.gov](mailto:samuel.mandell@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 Audit Findings

Cc: Lee Palmer, Director, Safety and Enforcement Division, CPUC

Nika Kjensli, Program Manager, ESRB, SED, CPUC  
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**CPUC AUDIT REPORT OF  
SHASTA LAKE UTILITY  
ELECTRIC DISTRIBUTION and SUBSTATION AUDITS  
June 07-11, 2021**

**Distribution Audit**

**I. Records Review**

During the audit, ESRB staff reviewed the following records:

- Completed work orders with notifications from the past 12 consecutive calendar months, cancelled work orders with notifications from the past 12 consecutive calendar months, and late completed work orders from the last 60 consecutive calendar months.
- Patrol and detailed inspection records from the past 72 consecutive calendar months.
- Feeder reliability metrics and sustained outages in the region from the last 60 calendar months.
- Map displaying distribution facilities in the region.
- New Construction (both overhead and underground) projects in the last 12 months not subject to a patrol or detailed inspection.
- Pole loading calculations from the last 12 consecutive calendar months including completion dates.
- Third-party notifications sent in the last 60 consecutive calendar months and received from the last 60 consecutive calendar months.
- List of inspectors and patrolmen active in the region from 2016 to year to date (YTD).
- Electronic training records for inspectors from 2016 to YTD.
- Completed equipment test records, deferred equipment test records, and temporarily delayed equipment tests during the last five years.

**II. Records Violations**

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

**1. General Order (GO) 95, Rule 18-B, Maintenance Programs** states in part:

*“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.*

*Companies shall undertake corrective actions within the time periods stated for each of the priority levels set forth below.*

*Scheduling of corrective actions within the time periods below may be based on additional factors, including the following factors, as appropriate:*

- *Type of facility or equipment;*

- *Location, including whether the Safety Hazard or potential violation is located in the High Fire-Threat District;*
- *Accessibility;*
- *Climate;*
- *Direct or potential impact on operations, customers, electrical company workers, communications workers, and the general public.*

*(a) The maximum time periods for corrective actions associated with potential violation of GO 95 or a Safety Hazard are based on the following priority levels:*

*(i) Level 1 -- An immediate risk of high potential impact to safety or reliability:*

- *Take corrective action immediately, either by fully repairing or by temporarily repairing and reclassifying to a lower priority.*

*(ii) Level 2 -- Any other risk of at least moderate potential impact to safety or reliability:*

- *Take corrective action within specified time period (either by fully repair or by temporarily repairing and reclassifying to Level 3 priority). Time period for corrective action to be determined at the time of identification by a qualified company representative, but not to exceed: (1) six months for potential violations that create a fire risk located in Tier 3 of the High Fire-Threat District; (2) 12 months for potential violations that create a fire risk located in Tier 2 of the High Fire-Threat District; (3) 12 months for potential violations that compromise worker safety; and (4) 36 months for all other Level 2 potential violations.*

*(iii) Level 3 -- Any risk of low potential impact to safety or reliability:*

- *Take corrective action within 60 months subject to the exception specified below.”*

Currently SLU uses the built-in prioritization system in its electronic inspection program. The program has three states: green for no issues, yellow for minor issues, and red for emergency issues. While it is possible to meet the GO 95 Rule 18-B requirements using this system’s two levels of prioritization, it would be recommended to have different priority levels for level 2 and level 3 issues. SLU also does not appear to assign required completion dates as issues are identified. ESRB is concerned that with level 2 and 3 issues grouped into the same priority tag classification without a required completion date, it increases the possibility of higher priority level 2 issue going unresolved within the timelines given by Rule 18-B.

ESRB identified the following deficiencies in SLU’s maintenance program:

1.1) SLU is not assigning required completion dates when identifying non-conformances. Rule 18-B is clear that a timeline for corrective action is required.

1.2) SLU is only using two prioritization levels while rule 18-B designates three different levels based on the severity of the issue.

### III. Field Inspection

During the field inspection, ESRB staff inspected the following facilities in the city of Shasta Lake:

Location	Equipment Number	Type of Structure	Approximate Location
1	T-1325	Padmount Transformer	3501 Iron Ct
2	J128	Junction Box	Adjacent to location 1
3	J129	Junction Box	Across the street from location 1
4	S132 and S142 S153 and S165	Switchgear	3535 Shasta Gateway Dr
5	T-101	Padmount Transformer	3563 Shasta Gateway Dr
6	J-136	Junction Box	Adjacent to location 5
7	T-968	Padmount Transformer	3684 Dowell Ct
8	T-967	Padmount Transformer	3644 Dowell Ct
9	T-120	Padmount Transformer	2435 Cana Dr
10	T-121	Padmount Transformer	2481 Cana Dr
11	T-2029	Padmount Transformer	3808 Arlene Ct
12	T-2028	Padmount Transformer	3848 Arlene Ct
13	T-2190	Padmount Transformer	4683 Orkney Pl
14	T-1815	Padmount Transformer	4635 Orkney Pl
15	T-1946	Padmount Transformer	3346 Stafford Dr
16	S349 & S350 S351 & C352	Switchgear	4220 Autumn Harvest Way
17	T-1154 and S492	Padmount Transformer	4300 Autumn Harvest Way
18	T2413	Padmount Transformer	5118 Moon Shadow Court
19	E6-025	Pole	512 Black Canyon
20	E6-028	Pole	511 Black Canyon Rd
21	E6-029	Pole	505 Black Canyon Rd
22	I7-103	Pole	NE Corner of Washington and Shasta
23	17-101	Pole	2023 Washington Ave
24	I7-099	Pole	2015 Washington Ave
25	I7-098	Pole	2007 Washington Ave

26	H6-098	Pole	Across from 4757 Front St
27	H6-096	Pole	SE Corner of Washington and Front St.
28	H6-097	Pole	4833 Shasta Dam Blvd
29	H6-126	Pole	SE corner of Mussel Shoals and Shasta Dam
30	H6-127	Pole	One span north of 29
31	H6-060	Pole	SE corner of Front and Mussel Shoals
32	H6-063	Pole	Behind Circle K on Front St.
33	H6-101	Pole	Across from 4735 Front St
34	H6-104	Pole	Front St Side of Tricounties Bank
35	H6-105	Pole	Corner of Front and Grand River
36	H6-106	Pole	Backside of Redding Boat Works
37	G6-066	Pole	NE corner of Main and Grand River
38	G6-063	Pole	4725 Main St
39	G6-072	Pole	4747 Main St
40	G6-073	Pole	4765 Main St
41	G6-074	Pole	4809 Main St
42	G6-048	Pole	4835 Main St
43	G6-046	Pole	NE corner of Mussel Shoals and Main
44	H6-059	Pole	Across from 1514 Mussel Shoals
45	H6-062	Pole	4845 Front St
46	H5-075	Pole	Across from 1732 Los Flores Ave
47	H5-073	Pole	3985 Los Gatos Ave
48	H5-071	Pole	SE Corner of Los Flores and Los Gatos
49	E3-015	Pole	582 Shasta Park Dr
50	E3-014	Pole	593 Shasta Park Dr
51	E3-012	Pole	540 Shasta Park Dr
52	E3-011	Pole	520 Shasta Park Dr
53	E3-019	Pole	594 Shasta Park Dr
54	E2-023	Pole	13842 Lake Blvd
55	E2-022	Pole	13848 Lake Blvd
56	E2-020	Pole	13866 Lake Blvd
57	E2-021	Pole	1 Span west of 56
58	E1-008	Pole	1 Span west of Homer and Linda Vista
59	E1-009	Pole	2 spans west of 57 on Linda Vista
60	G4-112	Pole	Corner of Rouge and Hazel
61	G4-125	Pole	Corner of Park and Rouge
62	G4-079	Pole	1328 Rouge Rd
63	G4-074	Pole	1350 Rouge Rd
64	G4-073	Pole	SE corner of Concha and Rouge
65	G4-072	Pole	3615 Concha St
66	G4-111	Pole	Rouge and Ouray St
67	G4-110	Pole	3610 Ouray St
68	G4-081	Pole	3672 Ouray St

69	F5-029	Pole	864 Forest St
70	F5-021	Pole	892 Forest St
71	F5-020	Pole	960 Forest St
72	F5-019	Pole	978 Forest St
73	F5-017	Pole	961 Central Ave
74	F5-018	Pole	950 Central Ave
75	G6-002	Pole	4425 Red Bluff St
76	G6-004	Pole	4465 Red Bluff St
77	G6-005	Pole	4511 Red Bluff St
78	G6-006	Pole	4517 Red Bluff St
79	G6-007	Pole	4525 Red Bluff St

#### 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, at 4833 Shasta Dam Rd (Location 28), has a buried guy anchor.

1.2) The pole, located at 582 Shasta Park Dr (Location 49), has a large woodpecker hole near the pole top.

1.3) The pole, located at 593 Shasta Park Dr (Location 50), has a large woodpecker hole in the middle of the pole.

1.4) The pole, located at 594 Shasta Park Dr (Location 53), has a large woodpecker hole in the middle of the pole.

1.5) The pole, located at the intersection of Rouge Rd and Ouray St (Location 66), has a large woodpecker hole on the pole top.

1.6) The pole, located at 864 Forest St (Location 69), has a buried guy anchor.

**2. GO 95, Rule 35, Vegetation Management** states in part:

*“Communication and electric supply circuits, energized at 750 volts or less, including their service drops, should be kept clear of vegetation in new construction and when circuits are reconstructed or repaired, whenever practicable. When a supply or communication company has actual knowledge, obtained either through normal operating practices or notification to the company, that its circuit energized at 750 volts or less shows strain or evidences abrasion from vegetation contact, the condition shall be corrected by reducing conductor tension, rearranging or replacing the conductor, pruning the vegetation, or placing mechanical protection on the conductor(s).”*

The pole, at 3985 Los Gatos (Location 47), has a service drop being strained and deflected by vegetation.

**3. 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.”*

The pole, located at 4465 Red Bluff (Location 76), has a damaged high voltage sign coming off the pole.

**4. 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.”*

4.1) The pole, located on Front St. behind the Circle K (Location 32), has vegetation making contact above the guy bob on the secondary down guy.

4.2) The pole, located at 594 Shasta Park Dr (Location 53), has vegetation making contact above the guy bob on the primary down guy.

4.3) The pole, located at the intersection of Rouge Rd and Conchas St (Location 64), has vegetation making contact above the guy bob on the primary down guy.

4.4) The pole, located at the intersection of Rouge Rd and Ouray St (Location 66), has vegetation making contact above the guy bob on the primary down guy.

4.5) The pole, located at 960 Forest St (Location 71), has vegetation making contact above the guy bob on the primary down guy.

**5. GO 95, Rule 91.3 – C, Joint Poles or Poles Jointly Use, Stepping** states in part:

*“Where installed, the lowest step shall not be less than 8 feet from the ground line, or any easily climbable foreign structure from which one could reach or step. Above this point steps shall be placed, with spacing between steps on the same side of the pole not exceeding 36 inches, at least to that conductor level above which only circuits operated and maintained by one party remain. Steps or fixtures for temporary steps shall be installed as part of a pole restoration process. Steps shall be so placed that runs or risers do not interfere with the free use of the steps.”*

The pole, located at 4917 Shasta Dam Rd (Location 29), has a low pole step.

**6. GO 95, Rule 56.2, Overhead Guys, Anchor Guys and Span Wires, Use states in part:**

*“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.”*

6.1) The pole, located on the southeast corner of Los Gatos and Los Flores (Location 48), has a slack primary down guy.

6.2) The pole, located at 582 Shasta Park Dr (Location 49), has a slack primary down guy.

6.3) The pole, located 1 pole west of the intersection of Linda Vista Rd and Shasta Dam Rd (Location 58), has a slack primary down guy.

6.4) The pole, located at the intersection of Rouge Rd and Ouray St (Location 66), has a slack primary down guy.

6.5) The pole, located at 4517 Red Bluff (Location 78), has a slack secondary down guy.

**7. GO 95, Rule 56.9, Guy Marker (Guy Guard) states:**

*“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 pole, located at 978 Forest St (Location 72), has a guy guard broken off the down guy.

**8. GO 128, Rule 17.1, Design, Construction, and Maintenance states:**

*“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.”*

8.1) The padmount transformer, located at 3684 Dowell Ct (Location 8), has significant corrosion on the outside of the box.

8.2) The padmount transformer, located at 4683 Orkney Pl (Location 13), needs the soil to be graded and the case properly secured to the pad.

8.3) The padmount transformer, located at 4635 Orkney Pl (Location 14), has a deteriorated pad.

## **V. Observations**

ESRB staff observed the following during the field inspection:

1. The following locations had potential third-party safety concerns:

1.1) The pole, located behind the Circle K on Front St (Location 32), has a communication wire hanging to the ground.

1.2) The pole, located at 4765 Main St (Location 40), has a communications riser not secured to the pole.

1.3) The pole, located at 4835 Main St (Location 42), has vegetation straining and deflecting a communication span running east of the pole.

1.4) The pole, located at 4845 Front St (Location 45), has a buddy pole that is not in the ground and mounted to the service pole.

1.5) The pole, located across from 1732 Los Flores (Location 46), has vegetation making contact above the guy bob on a communication down guy.

1.6) The pole, located at 520 Shasta Park Dr (Location 52), has a communication wire hanging to the ground.

1.7) The pole, located at 3615 Conchas St (Location 65), has a communication wire hanging to the ground and another communication wire under strain and deflected by vegetation.

1.8) The pole, located at 3672 Ouray (Location 68), has a communication wire hanging to the ground.

1.9) The pole, located at 978 Forest (Location 72), has a communication wire hanging to the ground.

1.10) The pole, located at 961 Central (Location 73), has a communication wire hanging to the ground.

1.11) The pole, located at 4525 Red Bluff (Location 79), has vegetation straining and deflecting a communication wire, and a communication service drop that is low over the road.

**CPUC AUDIT REPORT OF  
SHASTA LAKE UTILITY ELECTRIC SUBSTATION AUDIT  
June 07-11, 2021**

**Substation Audit**

**I. Records Review**

During the audit, ESRB reviewed the following standards, procedures, and records for Shasta Lake Utility substations:

- Lists and locations of all SLU substations
- Map showing all assigned PG&E substations
- Single-line diagrams of substations
- Last two routine substation inspection checklists
- SLU’s policy and procedures for substation infrared testing.
- SLU’s policy and procedures for substation oil testing.
- SLU’s policy and procedures for substation electrical testing/maintenance.
- SLU’s policy regarding counter results.
- SLU’s policy regarding battery testing.
- SLU’s fire system inspection procedures.
- A copy of the utility’s inspector training policy.
- List of inspections performed over the last two years
- Maintenance records for substations in the last 24 months
- Last oil test results for selected substations
- Last electric test results for selected substations

**II. Records Violations**

ESRB did not observe any records violations for the Shasta Lake Utility substations.

**III. Field Inspection**

During the field inspection, ESRB inspected the following substations:

<b>Substation</b>	<b>City</b>
Central Valley	Shasta Lake
Knauff	Shasta Lake

**IV. Field Inspection – Violations List**

ESRB did not observe any field violations at the Shasta Lake Utility substations.