PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

April 6, 2023 EA2023-1069

Todd Woolman
Electric Superintendent
City of Healdsburg Utility Department
401 Grove Street
Healdsburg, CA 95448

SUBJECT: Electric Distribution Audit of City of Healdsburg Electric Department

Dear Mr. Woolman:

On behalf of the Electric Safety and Reliability Branch (ESRB) of the California Public Utilities Commission (CPUC), Stephen Lee and Monica Hoskins of ESRB staff conducted an electric distribution audit of City of Healdsburg Electric Department (Healdsburg) from March 6 through March 10, 2023. During the audit, ESRB staff conducted a field inspection of Healdsburg'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. In addition, please respond no later than May 4, 2023, by electronic copy of all corrective actions and preventive measures taken by Healdsburg to correct the identified violations and prevent the recurrence of such violations.

The response should indicate each remedial action's date and completed preventive measure. In addition, 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 Audit Findings.

If you have any questions concerning this audit, please contact Stephen Lee at (916) 661-2353 or Stephen.Lee@cpuc.ca.gov.

Sincerely,

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

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
Rickey Tse, Senior Utilities Engineer (Supervisor), ESRB, SED, CPUC
Stephen Lee, Senior Utilities Engineer (Specialist), ESRB, SED, CPUC
Monica Hoskins, Utilities Engineer, ESRB, SED, CPUC

CITY OF HEALDSBURG ELECTRIC DEPARTMENT
ELECTRIC DISTRIBUTION AUDIT FINDINGS
MARCH 6 - 10, 2023

I. Records Review

During the audit, Electric Safety and Reliability Branch (ESRB) staff reviewed the following standards, procedures, and records for the City of Healdsburg Electric Department (Healdsburg):

- City of Healdsburg Overhead/Underground Preventative Maintenance/Inspection Program, April 2017.
- Statistics on distribution facilities statistics and circuit maps.
- Completed and canceled work order lists, January 2022 to December 2022.
- Open and late work order lists, January 2018 to December 2022.
- Patrol and detailed inspection records, January 2018 to December 2022.
- Reliability Indexes and Outage list, January 2018 to December 2022.
- New construction project list, January 2022 to December 2022.
- Pole loading calculations, January 2022 to December 2022.
- Outgoing Third-Party Notifications list, January 2022 to December 2022.
- List of inspectors and qualifications, January 2018 to December 2022.
- Equipment test records, January 2020 to December 2022.
- Intrusive pole inspection records, January 2020 to December 2022.

II. Records Violations

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

1. **General Order (GO) 95, Rule 18-B, Maintenance Programs, (1).(a)** 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.

   (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."*

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.

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 communication or supply lines and equipment."

The City of Healdsburg Overhead/Underground Preventative Maintenance/Inspection Program, Effective April 2017, defines the priority codes and associated time frames for the response/repair action as follows:

- Priority 1 – Immediate Hazard (respond to immediately)
- Priority 2 – Non-emergency repair condition (correct within 6 months)
- Priority 3 – Non-emergency repair condition (correct in one year)
- Priority 4 – Non-emergency repair condition (correct in three years)

ESRB reviewed open work order records within the City of Healdsburg Electric service area from January 2018 to December 2022 and identified two work orders that have been open since October 5, 2016. The first identified work order was created for a rocked over primary crossarm on pole number M26-004. The second identified work order was created for a chipped primary insulator skirt on pole number P26-004. During the audit, ESRB inspected

both locations and verified the conditions still existed. Both work orders did not have a Priority assigned to them; however, the work orders have exceeded both GO 95, Rule 18-B, Level 3 corrective action timeframes and Healdsburg's own defined maximum correction timeframes.

III. Field Inspection

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

Location	Equipment Number	Structure Type
1	P43-001	Pole
2	P43-002	Pole
3	N36-009	Pole
4	N36-002	Pole
5	O41-003	Pole
6	O41-001	Pole
7	N36-001	Pole
8	N36-008	Pole
9	O31	Pad mounted Transformer
10	Switch (38.644304, -122.862093)	Pad mounted Switchgear
11	F319	Pad mounted Transformer
12	P22-601	Splice Box
13	Switch (38.6413, -122.86067)	Pad mounted Switchgear
14	I294	Pad mounted Transformer
15	Secondary Box (38.648442, -122.862041)	Secondary Box
16	U13	Pad mounted Transformer
17	J49	Pad mounted Transformer
18	Splice Box (38.636406, -122.878007)	Splice Box
19	Splice Box (38.637407, -122.879581)	Splice Box
20	Secondary Box (38.637291, -122.879392)	Secondary Box
21	FI85	Pad mounted Transformer
22	F38	Pad mounted Transformer
23	Splice Box (38.625008, -122.867557)	Pull Box
24	Junction Box (38.625008, -122.867557)	Junction Box
25	H145	Pad mounted Transformer
26	Secondary Box (38.621995, -122.870622)	Secondary Box
27	I301	Pad mounted Transformer
28	Junction Box (38.627484, -122.863644)	Junction Box
29	Secondary Box (38.627700, -122.860915)	Secondary Box
30	H15	Pad mounted Transformer

31	Secondary Box (38.619687, -122.847143)	Secondary Box
32	Secondary Box (38.619685, -122.846952)	Secondary Box
33	F193	Pad mounted Transformer
34	H112	Pad mounted Transformer
35	Secondary Box (38.609940, -122.855583)	Secondary Box
36	Secondary Box (38.604582, -122.864410)	Secondary Box
37	T19	Pad mounted Transformer
38	Secondary Box (38.611237, -122.873951)	Secondary Box
39	T8	Pad mounted Transformer
40	Secondary Box (38.617315, -122.875805)	Secondary Box
41	I265	Pad mounted Transformer
42	O36-004	Pole
43	O36-023	Pole
44	O36-014	Pole
45	Q38-002	Pole
46	Q38-004	Pole
47	Q38-003	Pole
48	Q38-001	Pole
49	P35-024	Pole
50	P35-023	Pole
51	P35-020	Pole
52	O34-033	Pole
53	O34-034	Pole
54	O34-043	Pole
55	O34-025	Pole
56	O34-031	Pole
57	O34-030	Pole
58	O34-037	Pole
59	O34-017	Pole
60	O33-062	Pole
61	O33-058	Pole
62	O33-065	Pole
63	O33-064	Pole
64	O33-063	Pole
65	P34-023	Pole
66	P34-026	Pole
67	P34-024	Pole
68	P34-027	Pole
69	P34-007	Pole
70	P34-034	Pole

71	P34-035	Pole
72	Q34-003	Pole
73	Q34-002	Pole
74	N36-004	Pole
75	P36-009	Pole
76	S33-004	Pole
77	S33-010	Pole
78	S33-016	Pole
79	R33-005	Pole
80	R33-001	Pole
81	Q33-014	Pole
82	R32-001	Pole
83	P31-020	Pole
84	P31-019	Pole
85	Q31-001	Pole
86	R30-009	Pole
87	R29-014	Pole
88	Q29-005	Pole
89	R29-011	Pole
90	P26-004	Pole
91	O27-032	Pole
92	N26-008	Pole
93	N27-031	Pole
94	N28-009	Pole
95	N30-023	Pole
96	P30-005	Pole
97	O30-022	Pole
98	O31-005	Pole
99	O31-040	Pole
100	O31-042	Pole
101	N32-046	Pole
102	N30-038	Pole
103	N31-029	Pole
104	N32-031	Pole
105	N32-026	Pole
106	N32-033	Pole
107	M28-010	Pole
108	M26-004	Pole
109	Q30-018	Pole
110	Q30-006	Pole
111	Q30-007	Pole
112	Q30-015	Pole
113	Q30-008	Pole
114	Q30-001	Pole
115	Q30-026	Pole

116	Q30-010	Pole
117	Q30-024	Pole
118	Q30-005	Pole
119	Q30-022	Pole
120	Q30-021	Pole
121	M31-002	Pole
122	O31-006	Pole
123	O31-003	Pole
124	O31-007	Pole
125	O31-002	Pole
126	O31-044	Pole
127	O31-023	Pole
128	O31-013	Pole
129	O31-022	Pole
130	O31-008	Pole
131	O31-001	Pole
132	O31-009	Pole
133	O31-016	Pole
134	O31-019	Pole
135	O31-027	Pole
136	O31-030	Pole
137	O31-046	Pole
138	O31-042	Pole
139	Q29-004	Pole
140	Q29-001	Pole
141	Q29-007	Pole
142	R29-019	Pole
143	R29-011	Pole
144	R30-017	Pole
145	R30-005	Pole
146	R30-006	Pole
147	R30-002	Pole
148	R30-001	Pole
149	R30-008	Pole
150	R30-010	Pole
151	R30-011	Pole
152	R30-013	Pole
153	R30-014	Pole
154	R30-004	Pole
155	R29-023	Pole
156	R29-001	Pole
157	R29-010	Pole
158	R29-024	Pole
159	R29-003	Pole
160	R29-012	Pole

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."

   ESRB's findings are listed in Table 1:

Table 1: GO 95, Rule 31.1 Findings

Location	Finding
68	A woodpecker hole is forming near the top crossarm's through bolt on Pole P34-027. During the audit, Healdsburg patched the hole to prevent further woodpecker damage.
76	The visibility strips on Pole S33-004 were old and no longer visible during daytime. Healdsburg installed new yellow visibility strips on the pole during the audit.
77	Pole S33-10 is located near a paved road and was not equipped with visibility strips. Healdsburg installed new yellow visibility strips on the pole during the audit.
79	The automatic splices on the conductor span on Pole R33-005 are tied in too close to the supporting insulator and may be preventing free movement of the splice with the conductor.
81	The automatic splices on the conductor span on Pole Q33-014 are tied in too close to the supporting insulator and may be preventing free movement of the splice with the conductor.
82	The down guy anchor rod head for Pole R32-001 was buried in the ground. Healdsburg dug out the anchor rod head during the audit, which showed it had significant corrosion.
102	The visibility strips on N30-038 were old and no longer visible during daytime. Healdsburg installed new yellow visibility strips on the pole during the audit.
111	A woodpecker hole is forming near the top crossarm's through bolt on Pole Q30-007. During the audit, Healdsburg patched the hole to prevent further woodpecker damage.

115	The automatic splices on the conductor span on Pole Q30-026 are tied in too close to the supporting insulator and may be preventing free movement of the splice with the conductor.
119	There are a series of woodpecker holes near the transformer through bolt and transformer fuse bracket on Pole Q30-022. During the audit, Healdsburg patched the holes to prevent further woodpecker damage.
120	A large woodpecker hole is forming on Pole Q30-021. During the audit, Healdsburg patched the hole to prevent further woodpecker damage and to discourage woodpecker dwelling.
133	The visibility strip on Pole O31-016 is falling off the pole. Healdsburg resecured the visibility strip during the audit.
153	Woodpecker holes are forming near the transformer through bolt and secondary service support bracket on Pole R30-014. During the audit, Healdsburg patched the holes to prevent further woodpecker damage.

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

> *"Where overhead conductors traverse trees and vegetation, safety and reliability of service demand that certain vegetation management activities be performed in order to establish necessary and reasonable clearances, the minimum clearances set forth in Table 1, Cases 13 and 14, measured between line conductors and vegetation under normal conditions shall be maintained. (Also see Appendix E for tree trimming guidelines.) These requirements apply to all overhead electrical supply and communication facilities that are covered by this General Order, including facilities on lands owned and maintained by California state and local agencies.*
>
> *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)."*

ESRB's findings are listed in Table 2:

Table 2: GO 95, Rule 35 Findings

Location	Finding
95	Excessive vegetation is surrounding the secondary service conductor span between Poles N30-023 and N29-010, which is causing possible strain and abrasion. Healdsburg immediately recorded the location for future tree trimming.
147	There was a tree branch less than 48 inches from the 12kV overhead primary conductor span between Poles R30-002 and R30-006. These poles are located in a Tier 2 High Fire-Threat District. Healdsburg immediately removed the tree branch during the audit.

3. **GO 95, Rule 56.7-B, Location of Sectionalizing Insulators, Anchor Guys** states in part:

> *"In order to prevent trees, buildings, messengers, metal–sheathed cables or other similar objects from grounding portions of guys above guy insulators, it is suggested that anchor guys be sectionalized, where practicable, near the highest level permitted by this Rule."*

GO 95, Rule 35, Vegetation Management, Table 1, Case 14, Column E states in part:

> *"Where overhead conductors traverse trees and vegetation, safety and reliability of service demand that certain vegetation management activities be performed in order to establish necessary and reasonable clearances, the minimum clearances set forth in Table 1, Cases 13 and 14, measured between line conductors and vegetation under normal conditions shall be maintained. (Also see Appendix E for tree trimming guidelines.) These requirements apply to all overhead electrical supply and communication facilities that are covered by this General Order, including facilities on lands owned and maintained by California state and local agencies."*

ESRB's findings are listed in Table 3:

Table 3: GO 95, Rule 35 and 56.7-B Findings

Location	Finding
56	Vegetation contacted and grounded the anchor guy above the guy insulator for Pole O34-031. Healdsburg trimmed the vegetation away from the anchor guy during the audit.
59	Vegetation contacted and grounded the anchor guy above the guy insulator for Pole O34-017. Healdsburg trimmed the vegetation away from the anchor guy during the audit.

143	Vegetation contacted and grounded the anchor guy above the guy insulator for Pole R29-011. Healdsburg trimmed the vegetation away from the anchor guy during the audit.
158	Vegetation contacted and grounded the anchor guy above the guy insulator for Pole R29-024. Healdsburg trimmed the vegetation away from the anchor guy during the audit.

4. **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."*

ESRB's findings are listed in Table 4:

Table 4: GO 95, Rule 51.6-A Findings

Location	Finding
47	Pole Q38-003 was missing High Voltage signs. Healdsburg installed new signs on this pole during the audit.
49	Pole P35-024 had missing and damaged High Voltage signs on the crossarm. Healdsburg installed new signs on this pole during the audit.
90	Pole P26-004 had damaged High Voltage signs. Healdsburg installed new signs on this pole during the audit.
94	Pole N28-009 had a damaged High Voltage sign. Healdsburg installed a new sign on this pole during the audit.
102	Pole N30-038 was missing High Voltage signs on one side of the crossarm. Healdsburg installed new signs on this pole during the audit.
108	Pole M26-004 was missing High Voltage signs on one side of the crossarm. Healdsburg installed new signs on this pole during the audit.
110	Pole Q30-006 was missing High Voltage signs on one side of the crossarm. Healdsburg installed new signs on this pole during the audit.
134	Pole O31-019 was missing High Voltage signs. Healdsburg installed new signs on this pole during the audit.

5. **GO 95, Rule 54.6-I, Attachment of Protective Covering** states in part:

> *"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."*

ESRB's findings are listed in Table 5:

Table 5: GO 95, Rule 54.6-I Findings

Location	Finding
127	The vertical riser cover for the streetlight on Pole O31-023 was not attached to the pole. Healdsburg secured the riser during the audit.
147	The distance between the staples that secured the vertical riser cover for the streetlight on Pole R30-002 exceeded 36 inches. Healdsburg resecured the riser during the audit.

6. **GO 128, Rule 33.6.A, Arrangements in Manholes, Vaults, and Enclosures, Accessibility** states:

> *"Cables and conductors in manholes, handholes, permanent cable trenches, or other similar enclosures shall be reasonably accessible to workmen and working space shall be available at all times. (See Appendix B, Figure 9)."*

ESRB's finding is listed in Table 6:

Table 6: GO 128, Rule 33.6.A Finding

Location	Finding
32	Vegetation blocked access to the secondary box near 909 Valley View Drive. Healdsburg removed the vegetation during the audit.

7. **GO 128, Rule 34.2.B, Transformers** states in part:

> *"Transformers operating at more than 600 volts, other than current and potential transformers and transformers which constitute a component part of other apparatus and which conform to the requirements of such apparatus,*

shall be readily accessible for operation, inspection, maintenance, and replacement.

Transformers shall be installed in such a manner as to permit safe operation, maintenance, or replacement of other equipment."

ESRB's findings are listed in Table 7:

Table 7: GO 128, Rule 34.2.B Findings

Location	Finding
25	Vegetation impeded safe access to pad mounted Transformer H145. Healdsburg trimmed the vegetation away from the transformer during the audit.
34	Vegetation is beginning to block safe access to pad mounted Transformer H112. Healdsburg trimmed the vegetation away from the transformer during the audit.
37	Accumulating trash from the nearby hotel is blocking immediate access to the pad mounted Transformer T19.

8. **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."

ESRB's finding is listed in Table 8:

Table 8: GO 128, Rule 35.3 Finding

Location	Finding
24	The high voltage warning sign on the junction box at the intersection of Monte Vista Ave and Alexandria Dr was faded. Healdsburg installed a new sign during the audit.