STATE OF CALIFORNIA GAVIN C. NEWSOM., *Governor*

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

June 4, 2024 EA2024-1181

Manjot Gill
Assistant General Manager Electrical Engineering and Operations
Turlock Irrigation District
333 E. Canal Dr
Turlock, CA 95380

SUBJECT: Electric Distribution Facilities Audit of Turlock Irrigation District (TID)

Mr. Gill:

On behalf of the Electric Safety and Reliability Branch (ESRB) of the California Public Utilities Commission (CPUC), Dmitriy Lysak and Sajjad Mansuri of ESRB staff conducted an electric distribution audit of TID from March 18 to 22, 2024. During the audit, ESRB staff conducted field inspections of TID's distribution facilities and equipment and reviewed pertinent documents and records.

As a result of the audit, ESRB staff identified violations of General Order (GO) 95 and GO 128. A copy of the audit findings itemizing the violations and observations is enclosed. Please provide a response no later than July 2, 2024, via electronic copy of all corrective actions and preventive measures taken by TID to correct the identified violations and prevent the recurrence of such violations. Please note that ESRB will be posting the audit report and your response to our audit on the CPUC website. If there is any information in your response that you would like us to consider as confidential, we request that in addition to your confidential response, you provide us with a public version (a redacted version of your confidential response) to be posted on our website.

If you have any questions concerning this audit, please contact Sajjad Mansuri at (628) 217-1917 or sajjad.mansuri@cpuc.ca.gov.

Sincerely,

Rickey Tse, 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 for City of Ukiah

Cc: Lee Palmer, Director, Safety and Enforcement Division (SED), CPUC
Nika Kjensli, Program Manager, ESRB, SED, CPUC
Fadi Daye, Program and Project Supervisor, ESRB, SED, CPUC
Yi (Rocky) Yang, Senior Utilities Engineer (Supervisor), ESRB, SED, CPUC
Sajjad Mansuri, Utilities Engineer, ESRB, SED, CPUC

TURLOCK IRRIGATION DISTRICT
ELECTRIC DISTRIBUTION AUDIT FINDINGS
MARCH 18 – 22, 2024

I. Records Review

During the audit, Electric Safety and Reliability Branch (ESRB) staff reviewed the following records:

- TID Overhead/Underground Preventative Maintenance Program
- Overhead and underground facilities statistics.
- Completed work orders with notifications, canceled work orders with notifications, and open work orders with notifications from January 2019 to January 2024.
- Patrol and detailed inspection records from January 2019 to January 2024.
- Reliability metrics and sustained outages from January 2019 to January 2024.
- TID system map.
- New Construction projects (both overhead and underground) from January 2023 to January 2024.
- Pole loading and safety factor calculations completed from January 2023 to January 2024.
- Inspector list from January 2019 to January 2024and inspector qualifications.
- Equipment test records from January 2019 to January 2024.
- Intrusive inspection records from January 2019 to January 2024.

II. Records Violations

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

1. **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"

   TID's Preventative Maintenance Program provides inconsistent requirements for inspection cycles. The Inspection Cycles section does not align with the inspection intervals detailed in the Distribution Inspections section. The maintenance program should be updated to be consistent within the different sections as well as the actual inspection intervals that TID uses.

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

   "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."

GO 128, Rule 17.1, 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 [the] communication or supply lines and equipment."

ESRB staff reviewed work orders completed within TID for the past 60 months (January 2019 – January 2024). TID's Preventative Maintenance Program defines the priority codes and associated time frames for the response/repair action as follows:

Priority 1 *– An Immediate Hazard Condition that may affect the integrity of the system or presents a hazard to workers or to the general public and therefore need to be responded to immediately.*

Priority 2 *– A non-emergency repair condition that requires maintenance that can be performed within 30 (thirty) calendar days to maintain the integrity of the system. Priority 2 Tags will be prioritized by urgency and will be scheduled to have appropriate repairs made to correct the condition.*

Priority 3 *– A non-emergency repair condition that requires maintenance that can be performed within 6 (six) months.*

Priority 4 *– A non-emergency repair condition that requires maintenance that can be performed within 2 (two) years.*

ESRB staff reviewed late work orders and determined that TID did not address a total of 296 work orders by their assigned due date. Table 1 below breaks down the late work orders by their given priority, including the total number of late work orders pending and completed, which are included in the total.

Table 1: Late Work Orders

Priority Code	Late Work Orders Pending	Late Work Orders Completed	Total
1	1	17	**18**
2	59	111	**170**
3	48	23	**71**
4	35	2	**37**
Total	**143**	**153**	**296**

TID needs to provide ESRB with its corrective action plan to complete the 143 late pending work orders and its preventive actions to prevent any work orders from being completed late in the future.

Table 2 below identifies the most overdue non-exempt work orders for each priority.

Table 2: Most Overdue Work Orders

Priority Code	Most Overdue Work Orders (WO#s)	Number of Days Past Assigned Due Date
1	22000078	809
2	19000937	1653
3	19000622	1695
4	19000046	1573

TID identified work order # 22000078 on February 10, 2022, to relocate a down guy with a required end date of February 11, 2022. TID has not completed the work order as of April 22, 2024.

TID identified work order #19000937 on October 11, 2019, to replace a transformer with a required end date of October 21, 2019. TID has not completed the work order as of April 22, 2024.

TID identified work order # 19000622 on June 11, 2019, to replace an overloaded pole with a required end date of September 9, 2019. TID has not completed the work order as of April 22, 2024.

TID identified work order # 19000046 on January 9, 2019, to replace a triangle poly with a required end date of January 9, 2020. TID has not completed the work order as of April 22, 2024.

3. **GO 165, Rule III B**, Standard for Inspection states:

> *"Each utility subject to this General Order shall conduct inspections of its distribution facilities, as necessary, to ensure reliable, high-quality, and safe*

operation, but in no case may the period between inspections (measured in years) exceed the time specified in Table 1."

TID's underground inspection tracking software MIMS has been inaccessible since 2021. As a result, TID was not able to provide any records of underground inspection in the requested time period of January 2019 to January 2024. TID should resolve the issue as soon as possible to ensure all underground inspections are conducted as required and records of inspections are maintained.

III. Field Inspection

During the field inspection, ESRB inspected the following facilities in Table 3:

Table 3: Field Inspection Locations

Location #	Structure ID	Structure Type	City
1	921 S Central Ave	Pole	Turlock
2	980 S Central Ave	Pole	Turlock
3	1033 S Central Ave	Pole	Turlock
4	1125 Paulson Rd	Pole	Turlock
5	1125 Paulson Rd	Pole	Turlock
6	Y08 022	Pole	Lake Don Pedro
7	Y08 023	Pole	Lake Don Pedro
8	Y08 024	Pole	Lake Don Pedro
9	Y08 025	Pole	Lake Don Pedro
10	Y08 026	Pole	Lake Don Pedro
11	S06 002	Fuse Box	Roberst Ferry
12	S06 003	Pole	Roberst Ferry
13	S06 004	Pole	Roberst Ferry
14	S06 005	Pole	Roberst Ferry
15	S07 002	Pole	Roberst Ferry
16	M09 085B	Pole	Waterford
17	M09 085	Pole	Waterford
18	M09 085A	Pole	Waterford
19	M09 084	Pole	Waterford
20	7420 Morgan Lynn Ln	Secondary Vault	Hughson
21	T7417	Pad Mount Transformer	Hughson
22	T1621	Pad Mount Transformer	Hughson
23	T7437	Pad Mount Transformer	Hughson
24	T7565	Pad Mount Transformer	Hughson
25	T1700	Pad Mount Transformer	Hughson
26	T1606	Pad Mount Transformer	Ceres
27	T1604	Pad Mount Transformer	Ceres
28	T1605	Pad Mount Transformer	Ceres

29	1700 Evans "H"	Pad Mount Transformer	Ceres
30	1301 Richland Ave "J"	Pad Mount Transformer	Ceres
31	1301 Richland Ave "K"	Pad Mount Transformer	Ceres
32	1301 Richland Ave "L"	Pad Mount Transformer	Ceres
33	F10 132	Pole	Ceres
34	F10 162	Pole	Ceres
35	F10 129	Pole	Ceres
36	J-22976	Junction Box	Diablo Grande
37	F-22982	Pad Mount Fuse Box	Diablo Grande
38	J-22978	Junction Box	Diablo Grande
39	BB207 001	Pole	Diablo Grande
40	T94	Pad Mount Transformer	Diablo Grande
41	T102	Pad Mount Transformer	Diablo Grande
42	AA19 024	Pole	Diablo Grande
43	AA19 023	Pole	Diablo Grande
44	AA19 025	Pole	Diablo Grande
45	D21 064	Pole	Crows Landing
46	D21 056	Pole	Crows Landing
47	D21 057	Pole	Crows Landing
48	D21 063	Pole	Patterson
49	D19 013	Pole	Patterson
50	D19 014	Pole	Patterson
51	D19 012	Pole	Patterson
52	D19 008	Pole	Patterson
53	D19 007	Pole	Patterson
54	D19 009	Pole	Patterson
55	I13 027A	Pole	Turlock
56	I13 027	Pole	Turlock
57	I13 028	Pole	Turlock
58	I13 029	Pole	Turlock
59	H11 130	Pole	Ceres
60	H11 131	Pole	Ceres
61	H11 132	Pole	Ceres
62	H11 135	Pole	Ceres
63	N10 067	Pole	Denair
64	N10 084	Pole	Denair
65	N10 220	Pole	Denair
66	N10 085	Pole	Denair
67	T1786	Sub Surface Transformer	Denair
68	3907 Eastgate Dr	Secondary Enclosure	Denair
69	T1785	Sub Surface Transformer	Denair
70	3901 Eastgate Dr	Secondary Enclosure	Denair
71	Q18 125	Pole	Denair
72	Q18 126	Pole	Ballico
73	Q18 127	Pole	Ballico

74	Q18 128	Pole	Ballico
75	P17 004	Pole	Ballico
76	P17 005	Pole	Ballico
77	P17 005Z	Pole	Ballico
78	O17 084	Pole	Ballico
79	O17 083	Pole	Ballico
80	O17 195	Pole	Ballico
81	O17 085	Pole	Ballico
82	N193 019	Pole	Delhi
83	N193 019A	Pole	Delhi
84	N193 019B	Pole	Delhi
85	N193 071	Pole	Delhi
86	N193 071Z	Pole	Delhi
87	O24 027	Pole	Livingston
88	O24 024	Pole	Livingston
89	O24 023	Pole	Livingston
90	O24 022	Pole	Livingston
91	O24 021	Pole	Livingston
92	19837 Somers Dr	Secondary Enclosure	Hilmar
93	19811 Somers Dr "E"	Sub Surface Transformer	Hilmar
94	19735 Somers Dr "D"	Sub Surface Transformer	Hilmar
95	L204 060	Pole	Hilmar
96	L204 062	Pole	Hilmar
97	L204 062A	Pole	Hilmar
98	L204 063	Pole	Hilmar
99	L204 061	Pole	Hilmar
100	T1250	Pad Mount Transformer	Turlock
101	J18 191	Pole	Turlock
102	J18 183	Pole	Turlock
103	K141 015	Pole	Turlock
104	K141 014	Pole	Turlock
105	K141 031	Pole	Turlock
106	K141 034	Pole	Turlock
107	K141 033	Pole	Turlock
108	K141 038	Pole	Turlock
109	K141 006	Pole	Turlock
110	K156 052A	Pole	Turlock
111	K156 052	Pole	Turlock
112	K156 056	Pole	Turlock
113	K156 055	Pole	Turlock
114	1212 N Berkeley Ave	Pole	Turlock
115	L149 069B	Pole	Turlock
116	L149 070	Pole	Turlock
117	L149 036	Pole	Turlock

IV. Field Inspection Violations

ESRB identified 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 4:

Table 4: GO 95, Rule 31.1 Findings

Location #	Findings
1	Faded visibility strips
2	Damaged visibility strip
6	Damaged guy wire
7	Damaged visibility strip
12	Faded visibility strips
16	Pole top splitting
17	Faded visibility strips, buried anchor
51	Service drop low clearance
56	Pole top splitting, buried anchor, faded visibility strips
58	Missing visibility strips
71	Missing visibility strips, buried anchor
72	Damaged visibility strip
84	Service drop low clearance
91	Crossarm bent
104	Crossarm and pole top decay
111	Missing visibility strips
114	Missing visibility strips

2. **GO 95, Rule 51.6, Marking and Guarding, High Voltage Marking** states:

"A. High Voltage Marking

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 thansix (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 5:

Table 5: GO 95, Rule 51.6 Findings

Location #	Findings
1	Missing/Damaged "High Voltage" sign
2	Missing/Damaged "High Voltage" sign
10	Missing/Damaged "High Voltage" sign
12	Missing/Damaged "High Voltage" sign
13	Missing/Damaged "High Voltage" sign
17	Missing/Damaged "High Voltage" sign
42	Missing/Damaged "High Voltage" sign
44	Missing/Damaged "High Voltage" sign
48	Missing/Damaged "High Voltage" sign
57	Missing/Damaged "High Voltage" sign
75	Missing/Damaged "High Voltage" sign
81	Missing/Damaged "High Voltage" sign
82	Missing/Damaged "High Voltage" sign
85	Missing/Damaged "High Voltage" sign
88	Missing/Damaged "High Voltage" sign
90	Missing/Damaged "High Voltage" sign
91	Missing/Damaged "High Voltage" sign
96	Missing/Damaged "High Voltage" sign

Location #	Findings
101	Missing/Damaged “High Voltage” sign
104	Missing/Damaged “High Voltage” sign

3. **GO 95, Rule 84.6.B, Ground Wires** states:

“Ground wires, other than lightning protection wires not attached to equipment or ground wires on grounded structures, shall be covered by metal pipe or suitable covering of wood or metal, or of plastic conduit material as specified in Rule 22.8–A, for a distance above ground sufficient to protect against mechanical injury, but in no case shall such distance be less than 7 feet. Such covering may be omitted providing the ground wire in this 7-foot section has a mechanical strength at least equal to the strength of No. 6 AWG medium–hard–drawn copper.

Portions of ground wires which are on the surface of wood poles and within 6 feet vertically of unprotected supply conductors supported on the same pole, shall be covered with a suitable protective covering (see Rule 22.8).”

ESRB’s findings are listed in Table 6:

Table 6: GO 95, Rule 84.6.B Findings

Location #	Findings
3	Exposed ground wire
5	Exposed ground wire
6	Exposed ground wire
10	Exposed ground wire
17	Exposed ground wire
34	Exposed ground wire
50	Damaged ground wire
82	Exposed ground wire
99	Exposed ground wire
113	Exposed ground wire
116	Exposed ground wire

4. **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."

ESRB's findings are listed in Table 7:

Table 7: GO 95, Rule 35 Findings

Location #	Findings
17	Service drop strain
47	Overgrown vegetation near guy wire
51	Overgrown vegetation
115	Service drop strain
117	Vegetation near primary lines

5. **GO 95, Rule 86.9, 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."

ESRB's findings are listed in Table 8:

Table 8: GO 95, Rule 86.9 Findings

Location #	Findings
11	Guy guard missing visibility strips
17	Faded guy marker
51	Damaged down guy marker

6. **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."

ESRB's findings are listed in Table 9:

Table 9: GO 128, Rule 17.1 Findings

Location #	Findings
21	Access issue with lock and key
22	Access issue with lock and key
23	Transformer enclosure rusted
24	Transformer enclosure rusted
25	Transformer enclosure rusted
29	Transformer enclosure rusted
30	Transformer enclosure rusted
31	Transformer enclosure rusted, leaking oil
40	Transformer enclosure rusted
41	Transformer enclosure rusted
67	Lid missing bolt
68	Damaged lid
69	Lid missing bolt
70	Cracked lid
92	Lid not closing
93	Damaged enclosure

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."

ESRB's finding is listed in Table 10:

Table 10: GO 128, Rule 35.3 Finding

Location #	Finding
28	Faded Warning Sticker

8. **GO 128, Rule 17.8, Identification of Manholes, Handholes, Subsurface and Self-contained Surface-mounted Equipment Enclosures** states:

"Manholes, handholes, subsurface and self-contained surface-mounted equipment enclosures shall be marked as to ownership to facilitate identification by persons authorized to work therein and by other persons performing work in their vicinity."

ESRB's findings are listed in Table 11:

Table 11: GO 128, Rule 17.8 Findings

Location #	Findings
93	Missing TID ownership label
94	Missing TID ownership label

9. **GO 128, Rule 35.1, Identification of Cables** states:

"Cables operating at a voltage in excess of 750 volts shall be permanently and clearly identified by tags or other suitable means to indicate their operating voltage and the circuit with which they are normally associated at each manhole or other commonly accessible location of the underground system."

ESRB's findings are listed in Table 12:

Table 12: GO 128, Rule 35.1 Findings

Location #	Findings
23	Missing voltage tags on primary cables
24	Missing voltage tags on primary cables
25	Missing voltage tags on primary cables
29	Missing voltage tags on primary cables
30	Missing voltage tags on primary cables
31	Missing voltage tags on primary cables
32	Missing voltage tags on primary cables
93	Missing voltage tags on primary cables
94	Missing voltage tags on primary cables
100	Bollards removed from one side of transformer

V. Observations

1. **GO 95, Rule 18-A, Resolution of Potential Violations of General Order 95 and Safety Hazards** states in part:

   (2) "Where a communications company's or an electric utility's (Company A's) actions result in potential violations of GO 95 for another entity (Company B), that entity's (Company B's) remedial action will be to transmit a single documented notice of identified potential violations to the communications company or electric utility (Company A) within a reasonable amount of time not to exceed 180 days after the entity discovers the potential violations of GO 95. If the potential violation constitutes a Safety Hazard, such notice shall be transmitted within ten (10) business days after the entity discovers the Safety Hazard.

   (3) If a company, while performing inspections of its facilities, discovers a Safety Hazard(s) on or near a communications facility or electric facility involving another company, the inspecting company shall notify the other entity of such Safety Hazard(s) no later than ten (10) business days after the discovery.

   (4) To the extent a company that has a notification requirement under (2) or (3) above cannot determine the facility owner/operator, it shall contact the pole owner(s) within ten (10) business days if the subject of the notification is a Safety Hazard, or

otherwise within a reasonable amount of time not to exceed 180 days after discovery. The notified pole owner(s) shall be responsible for promptly (normally not to exceed five business days) notifying the company owning/operating the facility if the subject of the notification is a Safety Hazard, or otherwise within a reasonable amount of time not to exceed 180 days, after being notified of the potential violation of GO95."

Table 13 includes all non-TID (third-party) findings that ESRB observed during the audit:

Table 13: Observations

Location #	Observations
2	Guy guard missing visibility strips, damaged communications cable
16	Abandoned communications service, communications service in contact with roof
39	Abandoned communications line, loose communications guy wire
62	Abandoned communications line
66	Needs pole transfer
80	Abandoned communications line
82	Abandoned pole
83	Abandoned communications line, guy wire missing guard
86	Communications line vegetation strain
89	Communications guy guard damaged, buried anchor
110	Communications line in contact with roof
111	Abandoned communications line, exposed ground
112	Communications line low clearance