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

October 3, 2023 CA2023-1038

Lisa Ludovici
Charter Communications
Director, Government Affairs – Central and Northern California
270 Bridge Street
San Luis Obispo, CA 93401

SUBJECT: Audit of Charter Communications ("Spectrum") West Riverside County Area

Ms. Ludovici:

On behalf of the Electric Safety and Reliability Branch (ESRB) of the California Public Utilities Commission (CPUC), Eric Ujiiye of my staff conducted a CIP audit of Charter Communications' West Riverside County Area from June 5, 2023, to June 9, 2023. The audit included a review of Charter Communications' inspection and maintenance records and a field inspection of Charter Communications' facilities.

During the audit, my staff identified violations of one or more General Orders (GOs). An itemized copy of the audit findings violations identified by Staff is enclosed along with this letter. Please advise me no later than November 3, 2023, by electronic or hard copy, of all corrective measures taken by Charter Communications to remedy and prevent such violations.

If you have any questions concerning this audit, you can contact Eric Ujiiye at (213) 620-2598 or eric.ujiiye@cpuc.ca.gov.

Sincerely,

Fadi Daye

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

Enclosures: CPUC Audit Findings

Cc: Lee Palmer, Director, Safety and Enforcement Division, CPUC
Nika Kjensli, Program Manager, Electric Safety and Reliability Branch, CPUC
Eric Ujiiye, Utilities Engineer, ESRB, CPUC

AUDIT FINDINGS

I. Records Review

During the audit, my staff reviewed the following records:

- Overhead detailed and patrol inspections records
- Completed and pending corrective action work orders.
- Pole loading calculations
- Charter Communications' Intrusive Inspection of Wood Poles
- Charter Communications' Overhead Lines Maintenance Plan
- Charter Communications' Visual Inspections of Overhead Lines

II. Records Review – Violations List

My staff observed the following violations during the records review portion of the audit:

General Order (GO) 95, Rule 18-A: Resolution of Safety Hazards and General Order 95 Nonconformances, states in part:

> *Each company (including electric utilities and communications companies) is responsible for taking appropriate corrective action to remedy potential violations of GO 95 and Safety Hazards posed by its facilities.*

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

> *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.*

Charter Communications' records indicated that from 2020 to 2023, Charter Communications completed 87 overhead work orders past Charter Communications' due date for corrective action.

GO 95, Rule 44.1, Installation and Reconstruction, states in part:

> *Lines or parts thereof shall be replaced or reinforced before safety factors have been reduced (due to factors such as deterioration and/or installation of additional facilities) in Grades "A" and "B" construction to less than two-thirds of the safety factors specified in Rule 44.1 and in Grade "C" construction to less than one-half of the safety factors specified in Rule 44.1.*

For the following poles, part of Charter Communications' pole loading records for project "TWC-Z11-4533558-DD", contained incorrect details and ground line circumference measurements:

- Pole number 4715659E (the first pole load on page 53): the pole supported 12 kV electric supply conductors and communication conductors, making it a Grade A construction. However, Charter Communications' pole loading record classified the pole as "Grade B".
- Pole number 4715659E: additionally, the pole loading record indicated a groundline measurement of 43 inches for both "Measured: As Is" and "Theoretical: As Designed", however, ESRB Staff measured the actual ground line circumference (GLC) to be 36 inches during the audit. A recalculation was requested with the measured GLC that resulted in the AS-IS safety factor to be 2.65 which is below the minimum required safety factor 2.67 for a "Grade A" construction pole.
- Pole number 4421163E (the second pole load on page 170): the pole supported 12 kV electric supply conductors and communication conductors, making it a Grade A construction. However, Charter Communications' pole loading record classified the pole as "Grade B".
- Pole number 4421163E: additionally, the pole loading record indicated a groundline measurement of 45 inches for both "Measured: As Is" and "Theoretical: As Designed", however, ESRB Staff measured the actual ground line circumference (GLC) to be 39 inches during the audit. A recalculation was requested with the measured GLC that resulted in the AS-IS safety factor of 1.95, which is below the minimum required safety factor of 2.67 for a "Grade A" construction pole.

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.*

Charter Communications' records indicated that from 2020 to 2023, Charter Communications completed 14 underground work orders past Charter Communications scheduled due date for corrective action.

III. Field Inspection

My staff inspected the following structures during the field inspection portion of the audit:

No.	Structure Identification	Type of Structure	Location
1	3020 Curley Horse Way	Vault	Norco
2	3120 Crestview Dr.	Vault	Norco
3	3170 Crestview Dr.	Vault	Norco
4	3220 Crestview Dr.	Vault	Norco
5	3260 Crestview Dr.	Vault	Norco
6	3280 Crestview Dr.	Vault	Norco
7	3320 Crestview Dr.	Vault	Norco
8	119 Paint Ct.	Vault	Norco
9	3401 Crestview Dr.	Vault	Norco
10	3439 Vandermolen Dr.	Vault	Norco
11	3449 Vandermolen Dr.	Vault	Norco
12	110 Trakehner Pl.	Pedestal	Norco
13	4967290E	Pole	Norco
14	4885869E	Pole	Norco
15	6071S	Pole	Norco
16	1904451E	Pole	Norco
17	4282176E	Pole	Norco
18	4282177E	Pole	Norco
19	4686386E	Pole	Norco
20	6729	Pole	Norco
21	4794974E	Pole	Norco
22	1757441E	Pole	Norco
23	4973507E	Pole	Norco
24	205606	Pole	Norco
25	4282188E	Pole	Norco
26	1555696E	Pole	Norco
27	1555694E	Pole	Norco
28	4345805E	Pole	Norco
29	4973571E	Pole	Norco
30	4020904E	Pole	Norco
31	4021249E	Pole	Norco
32	4021250E	Pole	Norco
33	4949413E	Pole	Norco
34	4862935E	Pole	Norco
35	1567 Fairfield Ct.	Pedestal	Ontario

36	1567 Fairfield Ct.	Vault	Ontario
37	1543 Fairfield Ct.	Pedestal	Ontario
38	1543 Fairfield Ct.	Vault	Ontario
39	1553 Fairfield Ct. (streetside)	Vault	Ontario
40	1553 Fairfield Ct. (walkway)	Vault	Ontario
41	1519 Fairfield Ct.	Pedestal	Ontario
42	1519 Fairfield Ct.	Vault	Ontario
43	1501 Fairfield Ct.	Pedestal	Ontario
44	1501 Fairfield Ct.	Vault	Ontario
45	1502 Fairfield Ct.	Vault	Ontario
46	1508 Fairfield Ct.	Handhole	Ontario
47	1508 Fairfield Ct.	Vault	Ontario
48	1520 Fairfield Ct.	Vault	Ontario
49	1526 Fairfield Ct.	Vault	Ontario
50	1538 Fairfield Ct.	Vault	Ontario
51	1550 Fairfield Ct.	Pedestal	Ontario
52	1544 Fairfield Ct.	Vault	Ontario
53	1562 Fairfield Ct.	Vault	Ontario
54	1608 Fairfield Ct.	Vault	Ontario
55	11873 Yucca Dr.	Pedestal	Ontario
56	11867 Yucca Dr.	Pedestal	Ontario
57	14550 Hilcrest Dr.	Vault	Ontario
58	14544 Hilcrest Dr.	Pedestal	Ontario
59	14532 Hilcrest Dr.	Pedestal	Ontario
60	14508 Hilcrest Dr.	Pedestal	Ontario
61	14484 Hilcrest Dr.	Pedestal	Ontario
62	14472 Hilcrest Dr.	Pedestal	Ontario
63	14458 Hilcrest Dr.	Pedestal	Ontario
64	14481 Hilcrest Dr.	Vault	Ontario
65	14495 Hilcrest Dr.	Pedestal	Ontario
66	4628148E	Pole	Fontana
67	4628149E	Pole	Fontana
68	4628150E	Pole	Fontana
69	1979723E	Pole	Fontana
70	484989H	Pole	Fontana
71	4847193E	Pole	Fontana
72	1534302E	Pole	Fontana
73	1534303E	Pole	Moreno Valley
74	2346951E	Pole	Moreno Valley
75	315703S	Pole	Moreno Valley

76	4872189E	Pole	Moreno Valley
77	2065236E	Pole	Moreno Valley
78	316240S	Pole	Moreno Valley
79	1750712E	Pole	Moreno Valley
80	216817S	Pole	Moreno Valley
81	1853562E	Pole	Moreno Valley
82	10921CWT	Pole	Moreno Valley
83	1622853E	Pole	Moreno Valley
84	1623622E	Pole	Moreno Valley
85	4150526E	Pole	Moreno Valley
86	4714970E	Pole	Moreno Valley
87	4150527E	Pole	Moreno Valley
88	4697725E	Pole	Moreno Valley
89	13949 Apt.1, Day St.	Pedestal	Moreno Valley
90	13910 Day St.	Pedestal	Moreno Valley
91	13881 Day St.	Pedestal	Moreno Valley
92	4524481E	Pole	Moreno Valley
93	4877464E	Pole	Moreno Valley
94	315699S	Pole	Moreno Valley
95	214860S	Pole	Moreno Valley
96	1869316E	Pole	Moreno Valley
97	1869315E	Pole	Moreno Valley
98	315698S	Pole	Moreno Valley
99	75254S	Pole	Lake Elsinore
100	4421163E	Pole	Lake Elsinore
101	212666S	Pole	Lake Elsinore
102	4715659E	Pole	Lake Elsinore
103	4170993E	Pole	Menifee
104	4170992E	Pole	Menifee
105	4908034E	Pole	Menifee
106	2065509E	Pole	Menifee
107	4773359E	Pole	Menifee
108	1622873E	Pole	Menifee

IV. Field Inspection - Violations List

My staff observed the following violations during the field inspections portion of the audit:

GO 95, Rule 18-A3, Resolution of Potential Violations of General Order 95 and Safety Hazards, states:

> *(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 10 business days after the discovery.*

An SCE handhole containing secondary facilities (and located near a Charter Communications' vault) was damaged and unable to close, thereby allowing the public access to energized facilities. During its latest inspection, Charter Communications did not document and report this safety hazard to the responsible third party.

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.*

The following poles supported Charter Communications facilities that required maintenance:

- 484989H: Charter Communications did not complete the transfer of its facilities to new Pole number 4879686E.
- Pole 315699S: a Charter Communications ground wire was severed near the base of the pole.

GO 95, Rule 31.6, Abandoned Lines, states:

> *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 Charter Communications facilities were permanently abandoned:

- A pedestal located at a public sidewalk at 1550 Fairfield Court in Ontario was permanently abandoned and missing its cover.
- A Charter Communications service drop supported on Pole 1869315E was permanently abandoned and hanging off the pole.

GO 95, Rule 35, Vegetation Management, states in part:

> *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 evidence 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).*

Charter Communications facilities supported on the following poles were strained by vegetation:

- Pole 1904451E: a Charter Communications conductor span was deflected at midspan by the branches of a large tree.
- Pole 4949413E: a Charter Communications conductor span was deflected at midspan by the branches of a large tree.

GO 95, Rule 54.8-C4: Clearances between Supply Service Drops and Other Conductors, states in part:

> *From Communication Service Drops: The radial clearance between supply service drop conductors and communication service drop conductors may be less than 48 inches as specified in Table 2, Column C, Cases 4 and 9; Column D, Cases 3 and 8 , but shall be not less than 24 inches. Where within 15 feet of the point of attachment of either service drop on a building, this clearance may be further reduced but shall be not less than 12 inches.*

Charter Communications service drops attached to each of the following poles had less than the minimum required radial clearance of 12 inches from a supply service drop:

- Pole 4967290E: a Charter Communications service drop was attached to an electric supply weather-head at less than 3 inches below the supply service drop.
- Pole 4345805E: a Charter Communications service drop was wrapped around the supply service drop at the supply weather-head.

GO 95, Rule 38 - Minimum Clearances of Wires from Other Wires, Table 2, Column C, Case 8, requires the minimum vertical clearance of "Communication Conductors (Including Open Wire, Cables and Service Drops)," and "Communication Conductors and Supply Drops" supported on the same pole to be 12 inches.

Charter Communications conductors attached to each of the following poles had less than the minimum required vertical clearance of 12 inches from a third-party communications cable.

- Pole 4697290E: a Charter Communications span conductor was attached to a fiber cable at midspan.

- Pole 4794974E: a Charter Communications span conductor was contacting the underbuilt telecommunication conductor at midspan.
- Pole 4697290E: a Charter Communications amplifier was contacting the underbuilt telecommunication conductor near the pole.
- Pole 4697290E: a Charter Communications conductor drip loop had less than 8" of vertical clearance from the underbuilt telecommunication conductor on the pole.
- Pole 4345805E: a Charter Communications service drop was wrapped around a telecommunication conductor at mid span.
- Pole 4020904E: a Charter Communications conductor drip loop was contacting the underbuilt telecommunication conductor near the pole.
- Pole 1979723E: a Charter Communications span conductor was contacting the underbuilt telecommunication conductor at midspan.
- Pole 4847193E: a Charter Communications span conductor was sagging past and contacting the underbuilt telecommunication.
- Pole 1534303E: a Charter Communications span conductor was contacting a telecommunication conductor at midspan.
- Pole 315698SE: a Charter Communications amplifier was contacting the underbuilt telecommunication conductor near the pole.
- Pole 315698SE: a Charter Spectrum service drop was contacting the underbuilt telecommunication conductor at mid span.

GO 95, Rule 84.6-B, Ground Wires, states in part:

> *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...*

Charter Communications ground molding attached to each of the following poles was damaged:

- Pole 4628148: The ground molding protecting a ground wire in which Charter Spectrum was bonded to was exposed missing a 2-foot section at the public level.
- Pole 1869315E: the Charter Communications ground wire was not protected at the public level and was unearthed near the base of the pole.

GO 95, Rule 84.7-A, Climbing Space, states in part:

> *Climbing space shall be maintained on one side or quadrant of all poles or structures supporting communications conductors excepting at the level of the one pair of conductors attached to the pole below the lowest crossarm (Rules 84.4–C1c, 84.4–D1* and *87.4–C3) and the top 3 feet of poles carrying communication conductors only which are attached directly to pole in accordance with the provisions of Rule 84.4–C1c.*

The climbing space of Pole 6071S was obstructed by thick vegetation at 8 feet above the ground.

GO 95, Rule 86.2, Uses (Guy Wires), 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.*

A Charter Communications span guy wire attached to pole 1904451E was not maintained taut.

GO 95, Rule 92.4-C2e: Grounding, states in part:

> *Ground Rods (Ground Electrodes): Ground rods on the communication messenger system(s) shall conform to each of the following requirements***.**
> *e) The driven ground rod(s), pipe(s), or equivalent shall be located 24 inches or more from the surface of the pole.*

A ground rod installed near the surface of pole 6071S did not have the required minimum distance of 24 inches.

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.*

The following Charter Communications facilities required maintenance:

- A portion of the exposed housing of the vault at 3020 Curly Horse Way, Norco was damaged.
- A tap connection inside the vault at 3320 Crestview Drive, Norco was severely corroded.
- The pedestal located at 3439 Vandermolen Drive, Norco was damaged at the base and could not be securely closed.
- The housing of the vault located at 1567 Fairfield Court in Ontario was protruding 2 inches above the ground, creating a tripping hazard.
- The vault located at 1567 Fairfield Court in Ontario contained a disconnected ground wire.
- The lid of the vault located at 1543 Fairfield Court in Ontario had damaged screw attachment points.
- The vault located near the street at 1531 Fairfield Court in Ontario contained a disconnected ground wire.
- The vault located near the walkway at 1531 Fairfield Court in Ontario contained a disconnected ground wire.
- The vault located near the walkway at 1531 Fairfield Court in Ontario contained a disconnected ground wire.

- The lid of the vault located near the walkway at 1531 Fairfield Court in Ontario was damaged.
- The lid of the vault located near the walkway at 1519 Fairfield Court in Ontario had damaged screw attachment points.
- The pedestal located at 1501 Fairfield Court in Ontario was damaged at the base and could not be securely closed.
- The lid of the vault located near the walkway at 1501 Fairfield Court in Ontario had damaged screw attachment points.
- The lid of the vault located near the walkway at 1508 Fairfield Court in Ontario had damaged screw attachment points.
- The pedestal located at 11867 Yucca Drive in Fontana had a damaged internal member that did not allow the pedestal to securely closed.
- The pedestal located at 14458 Hilcrest Drive in Fontana was damaged at the base, exposing the internal components, and could not be securely closed.

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.*

The following Charter Communications facilities did not display any markings to facilitate ownership identification:

- Vault located at 1543 Fairfield Court in Ontario
- Vault located near the street at 1531 Fairfield Court in Ontario
- Vault located near the walkway at 1519 Fairfield Court in Ontario
- Vault located near the walkway at 1501 Fairfield Court in Ontario
- Vault located near the walkway at 1502 Fairfield Court in Ontario
- Vault located near the walkway at 1508 Fairfield Court in Ontario
- Vault located near the walkway at 1520 Fairfield Court in Ontario
- Vault located near the walkway at 1526 Fairfield Court in Ontario
- Vault located near the walkway at 1538 Fairfield Court in Ontario
- Vault located near the walkway at 1544 Fairfield Court in Ontario
- Vault located near the walkway at 1608 Fairfield Court in Ontario

GO 128, Rule 42.7, Covers, states in part:

> *Manholes and handholes, while not being worked in shall be securely closed by covers of sufficient strength to sustain such loads as may reasonably be imposed upon them, and arrangement shall be such that a tool or appliance shall be required for their opening and cover removal.*

The following Charter Communications underground structures were not securely closed, therefore allowing unauthorized access to the structures:

- Vault located at 3020 Curly Horse Way, Norco
- Vault located at 3170 Crestview Drive, Norco
- Vault located at 3280 Crestview Drive, Norco
- Vault located at 3320 Crestview Drive, Norco
- Vault located at 3401 Crestview Drive, Norco
- Vault located at 3449 Vandermolen Drive, Norco
- Vault located near the street at 1531 Fairfield Court in Ontario.
- Vault located near the walkway at 1520 Fairfield Court in Ontario
- Vault located near the walkway at 1526 Fairfield Court in Ontario
- Vault located near the walkway at 1538 Fairfield Court in Ontario
- Vault located near the walkway at 1544 Fairfield Court in Ontario
- Vault located near the walkway at 1608 Fairfield Court in Ontario
- Vault located at 14481 Hilcrest Drive in Fontana