STATE OF CALIFORNIA GAVIN NEWSOM, *Governor*

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

July 27, 2021 CA2021-904

Lisa Ludovici
Director, Government Affairs
Charter Communications
270 Bridge Street
San Luis Obispo, CA 93401

Subject: Audit of Charter Communications' Orange County District

Ms. Ludovici:

On behalf of the Electric Safety and Reliability Branch (ESRB) of the California Public Utilities Commission (CPUC), Richard Le and James Miller of my staff conducted a Communication Infrastructure Provider (CIP) audit of Charter's Orange County District from June 14, 2021 to June 18, 2021. The audit included a review of Charter's inspection and maintenance records and a field inspection of Charter's facilities.

During the audit, my staff identified violations of one or more General Orders (GOs). A copy of the audit findings itemizing the violations is enclosed. Please advise me no later than August 27, 2021, by electronic or hard copy, of all corrective measures taken by Charter to remedy and prevent such violations.

If you have any questions concerning this audit, you can contact Richard Le at (213) 999 – 9053 or Richard.Le@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

Enclosure: Audit Findings

Cc: Lee Palmer, Director, Safety and Enforcement Division, CPUC
Nika Kjensli, Program Manager, ESRB, SED, CPUC
Majed Ibrahim, Senior Utilities Engineer, ESRB, SED, CPUC
Richard Le, Utilities Engineer, ESRB, SED, CPUC
James Miller, Utilities Engineer, ESRB, SED, CPUC

Audit Findings

I. Records Review

During the audit, my staff reviewed the following records:

- Overhead and underground detailed inspection records
- Patrol records
- Completed and pending corrective action work orders
- Pole load calculations
- Intrusive test records
- Safety hazard notifications
- Charter's documented inspection program.

II. Records Review – Violations List

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

GO 95, Rule 18-B1, Maintenance Programs, states in part:

> *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 …*

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's records indicated that from April 2016 to April 2021, Charter completed 374 overhead work orders past their due date for corrective actions. Additionally, as of the date of the audit, Charter had 80 open overhead work orders that were past their scheduled due date for corrective action.

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's records indicated that from April 2016 to April 2021, Charter completed 21 underground work orders past their due date for corrective actions.

III. Field Inspection

My staff inspected the following facilities during the field inspection:

No.	Structure ID.	Type of Structure	Location
1	833193E	Pole	La Habra
2	833194E	Pole	La Habra
3	4792125E	Pole	La Habra
4	4792124E	Pole	La Habra
5	W1484	Pole	La Habra
6	2128413E	Pole	La Habra
7	1914480E	Pole	La Habra
8	576060E	Pole	La Habra
9	576061E	Pole	La Habra
10	455080E	Pole	La Habra
11	455081E	Pole	La Habra
12	4053560E	Pole	La Habra
13	15364TWC	Pole	La Habra
14	665763E	Pole	La Habra
15	4457558	Pole	La Habra
16	2103347E	Pole	Brea/Carbon Canyon
17	2193170E	Pole	Brea/Carbon Canyon
18	2325731E	Pole	Brea/Carbon Canyon
19	4245576E	Pole	Brea/Carbon Canyon
20	4151997E	Pole	Brea/Carbon Canyon
21	1497587E	Pole	Brea/Carbon Canyon
22	1396934E	Pole	Brea/Carbon Canyon
23	4151997E	Pole	Brea/Carbon Canyon
24	835324	Pole	Brea/Carbon Canyon
25	1406209E	Pole	Buena Park
26	1406208E	Pole	Buena Park
27	1956145E	Pole	Buena Park
28	1956146E	Pole	Buena Park
29	4747837E	Pole	Buena Park
30	1402828E	Pole	Buena Park
31	1402827E	Pole	Buena Park
32	1402830E	Pole	Buena Park
33	1402829E	Pole	Buena Park
34	1684271E	Pole	Los Alamitos
35	1846811E	Pole	Los Alamitos
36	1762758E	Pole	Los Alamitos
37	1762757E	Pole	Los Alamitos
38	2069661E	Pole	Los Alamitos
39	863712E	Pole	Los Alamitos
40	901782E	Pole	Los Alamitos
41	12569E	Pole	Los Alamitos
42	4855044E	Pole	Orange
43	1956627E	Pole	Orange

44	835840H	Pole	Orange
45	472194E	Pole	Orange
46	2099359E	Pole	Orange
47	2099360E	Pole	Orange
48	2099361E	Pole	Orange
49	2099362E	Pole	Orange
50	2099363E	Pole	Orange
51	1985874E	Pole	Orange
52	2099364E	Pole	Orange
53	2099365E	Pole	Orange
54	1114071E	Pole	Orange
55	115406E	Pole	Garden Grove
56	115407E	Pole	Garden Grove
57	783833H	Pole	Garden Grove
58	999000E	Pole	Garden Grove
59	115410E	Pole	Garden Grove
60	871974E	Pole	Garden Grove
61	871975E	Pole	Garden Grove
62	871976E	Pole	Garden Grove
63	871977E	Pole	Garden Grove
64	871978E	Pole	Garden Grove
65	C5631Y	Pole	Westminster
66	6047Y	Pole	Westminster
67	4702465E	Pole	Westminster
68	4580001E	Pole	Westminster
69	1142982E	Pole	Westminster
70	4138559E	Pole	Santa Ana
71	4532020E	Pole	Santa Ana
72	1175053E	Pole	Santa Ana
73	1177135E	Pole	Santa Ana
74	1334932E	Pole	Santa Ana
75	1334933E	Pole	Santa Ana
76	1234883E	Pole	Santa Ana
77	4288636E	Pole	Santa Ana
78	1385964E	Pole	Santa Ana
79	4338565E	Pole	Costa Mesa
80	1122148E	Pole	Costa Mesa
81	1369743E	Pole	Costa Mesa
82	13697444E	Pole	Costa Mesa
83	1267866E	Pole	Costa Mesa
84	13697545E	Pole	Costa Mesa
85	2192698E	Pole	Huntington Beach
86	1787780E	Pole	Huntington Beach
87	1767781E	Pole	Huntington Beach
88	1787782E	Pole	Huntington Beach
89	3001118E	Pole	Huntington Beach
90	In front of 705 N Forbes Dr	Handhole	Brea
91	In front of 745 N Forbes	Handhole	Brea

	Dr		
92	In front of 765 N Forbes Dr	Handhole	Brea
93	In front of 785 N Forbes Dr	Handhole	Brea
94	In front of 668 Desert Canyon Rd	Pedestal	Brea
95	In front of 668 Desert Canyon Rd	Handhole	Brea
96	In front of 650 Desert Canyon Rd	Handhole	Brea
97	In front of 626 Desert Canyon Rd	Handhole	Brea
98	In front of 618 Desert Canyon Rd	Handhole	Brea
99	In front of 605 Bryce Canyon Rd	Handhole	Brea
100	In front of 556 Coyote Canyon Rd	Handhole	Brea
101	In front of 24500 Via Arriba Linda	Pedestal	Yorba Linda
102	In front of 24470 Via Arriba Linda	Handhole	Yorba Linda
103	In front of 24460 Via Arriba Linda	Handhole	Yorba Linda
104	In front of 5585 Via Verano	Handhole	Yorba Linda
105	In front of 5570 Via Verano	Pedestal	Yorba Linda
106	In front of 5560 Via Verano	Handhole	Yorba Linda
107	In front of 5530 Via Verano	Handhole	Yorba Linda
108	In front of 5510 Via Verano	Handhole	Yorba Linda
109	In front of 7748 Misty Glen Ct	Pedestal	Anaheim
110	In front of 1082 Laughingbrook	Pedestal	Anaheim
111	In front of 1082 Laughingbrook	Handhole	Anaheim
112	In front of 1052 Laughingbrook	Pedestal	Anaheim
113	In front of 1032 Laughingbrook	Handhole	Anaheim
114	In front of 1032 Laughingbrook	Handhole	Anaheim
115	In front of 1012 Laughingbrook	Handhole	Anaheim
116	In front of 1012	Pedestal	Anaheim

	Laughingbrook		
117	In front of 1201 Bellcmont Ct	Handhole	Tustin
118	In front of 1202 Bellcmont Ct	Handhole	Tustin
119	In front of 1102 Edgetow Ct	Handhole	Tustin
120	In front of 901 Hoyt	Handhole	Tustin
121	In front of 801 Hillman Ct	Handhole	Tustin
122	In front of 701 Westhaven Ct	Handhole	Tustin
123	15283TWC	Pole	Tustin
124	Behind 549 Irvine Ave	Handhole	Newport Beach
125	Behind 539 Irvine Ave	Handhole	Newport Beach
126	Behind 527 Irvine Ave	Handhole	Newport Beach
127	Behind 521 Irvine Ave	Handhole	Newport Beach
128	Behind 519 Irvine Ave	Pedestal	Newport Beach
129	15416TWC	Pole	Cypress
130	1881475E	Pole	Cypress
131	15387TWC	Pole	Stanton

IV. Field Inspection – Violations List

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.*

Charter's facilities on the following poles required maintenance:

- 4792125E – Broken lashing wire
- 576061E – Broken lashing wire
- 3001118E – Broken lashing wire
- W1484 – Unsecured riser on the pole
- 2069661E – Unsecured conduit bracket
- 863712E – Damaged conduit

The ground wire covering on the following poles was damaged:

- 1762758E
- 115406E
- 1175053E
- 1334933E
- 4338565E

GO 95, Rule 31.6, Abandoned Lines, states in part:

> *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.*

Charter communication conductors on each of the following poles were abandoned:

- 783833H
- 115410E
- 871977E – Charter had an abandoned service drop dangling near the pole.
- 1234883E
- 1334932E
- 1122148E – Charter had an abandoned service drop dangling near the pole.
- 1787782E – Charter had an abandoned riser attached to the pole.

GO 95, Rule 38 - Minimum Clearances of Wires from Other Wires, Table 2, Case 8, Column C, requires the minimum vertical separation between communications conductors on separate crossarms or other supports at different levels on the same pole and in adjoining midspans to be 12 inches.

The separation between Charter communications conductors and a third-party communications conductor on each of the following poles had less than 12 inches of vertical separation:

- 833194E – Charter and underbuilt communication conductors touching at midspan
- W1484 – Charter service drop in contact with another communication conductor
- 1762757E – Charter service drop in contact with another communication conductor
- 4792124E – Charter service drop in contact with another communication conductor
- 455080E – Charter service drop in contact with another communication conductor
- 1846811E – Charter service drop in contact with another communication conductor
- 115406E – Charter service drop in contact with two other communication conductors
- 999000E – Charter and overbuilt communication conductors touching at midspan
- 1142982E – Charter and underbuilt communication conductors touching at midspan
- 1334933E – Charter and overbuilt communication conductors touching at midspan
- 115410E
- 871977E
- 4532020E
- 1369743E

General Order 95, Rule 38, Table 2, Case 19, Column C requires the minimum radial separation between communications conductors and guys supported on the same poles to be 3 inches.

A Charter communications conductor on pole 1334932E was touching a down guy wire.

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.*

The Charter down guy wire attached on each of the following poles was not taut:

- 1334932E
- 1334933E

GO 95, Rule 86.9, Guy Marker (Guy Guard), states in part:

> *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.*

A Charter down guy wire attached to Pole 1334932E did not have a marker.

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 pedestal in front of 24500 Via Arriba Linda had a damaged door that would not fully close. Customer vegetation also prevented access through one side of the pedestal.
- The pedestal in front of 1082 Laughingbrook had an unsecured base and an unsecured amplifier inside.
- The handhole in front of 1032 Laughingbrook had a corroded tap.
- The pedestal in front of 1012 Laughingbrook was installed into an old handhole, exposing its base.

The pedestal cover at each of the following locations was not locked:

- The pedestal in front of 668 Desert Canyon Rd
- The pedestal in front of 5570 Via Verano
- The pedestal in front of 7748 Misty Glen Ct
- The pedestal in front of 1082 Laughingbrook
- The pedestal in front of 1052 Laughingbrook
- The pedestal in front of 1012 Laughingbrook
- The pedestal behind 519 Irvine Ave

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.*

GO 128, Rule 21.5, states in part:

> *Effectively Grounded (Effective Ground) means permanently connected to earth through a ground connection or connections of sufficiently low impedance and having sufficient current-carrying capacity to prevent the building up of voltages which may result in undue hazard to persons or to connected equipment.*

GO 128, Rule 36.5-A, Grounding and Bonding of Conductors and Equipment, states in part:

> *Supply conductors and equipment of the following types shall be bonded in manholes and at other locations where conductors and equipment are accessible and in proximity to one another, and shall be grounded in accordance with Rule 36.5-C….*

GO 128, Rule 36.5-C, Grounding Methods, states in part:

> *Conductors and equipment required by Rule 36.5-A to be grounded shall be effectively grounded…*

GO 128, Rule 36.5-C, also lists the acceptable grounding methods. The following underground equipment, which are required to be effectively grounded by GO 128, Rule 36.5A, were not effectively grounded:

- The amplifier in the handhole in front of 785 N Forbes Dr
- The amplifier in the handhole in front of 5560 Via Verano
- The amplifier in the pedestal in front of 7748 Misty Glen Ct.

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 cover of the handhole in front of 1082 Laughingbrook was damaged.