

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



August 19, 2020

CA2020-873

Rex Knowles
Director, External Affairs
Verizon Wireless
9656 Prosperity RD
West Jordan, Utah 84088

SUBJECT: Communication Infrastructure Provider (CIP) Audit of Verizon Wireless – Bay Area

Dear Mr. Knowles:

On behalf of the Electric Safety and Reliability Branch (ESRB) of the California Public Utilities Commission (CPUC), Raymond Cho and Matthew Yunge of ESRB conducted a CIP audit of Verizon Wireless (Verizon) from July 20 through July 24, 2020. The audit included field inspections of its communication facilities.

During the field inspection of the audit, my staff identified violations of one or more General Orders (GOs). A copy of the field inspection findings itemizing the violations is enclosed. Please provide a response no later than September 18, 2020 via electronic submittal of all corrective actions and preventive measures taken by Verizon to correct the identified violations and prevent the recurrence of such violations.

If you have any questions concerning this audit, please contact Raymond Cho at (415) 703-2236 or raymond.cho@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 Field Inspection Findings

Cc: Lee Palmer, Director, Safety and Enforcement Division
Nika Kjensli, Program Manager, ESRB, SED, CPUC
Raymond Cho, Senior Utilities Engineer (Specialist), ESRB, SED, CPUC
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Matthew Yunge, Utilities Engineer, ESRB, SED, CPUC

VERIZON CIP AUDIT- FIELD INSPECTION FINDINGS

I. Field Inspection

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

Location	Structure Type	Unique Identifier/Node	City
1	Pole	Emeryville ODAS 17 (67 th and Hollis)	Emeryville
2	Pole	Emeryville ODAS 09	Emeryville
3	Pole	Emeryville ODAS 11	Emeryville
4	Pole	Emeryville ODAS 12	Emeryville
5	Pole	Emeryville ODAS 17 (Hollis and Ocean)	Emeryville
6	Pole	Emeryville ODAS 22	Emeryville
7	Pole	Southwest Berkeley SC1	Berkeley
8	Pole	Southwest Berkeley SC2	Berkeley
9	Pole	Southwest Berkeley SC3	Berkeley
10	Pole	Southwest Berkeley SC4	Berkeley
11	Pole	Southwest Berkeley SC5	Berkeley
12	Pole	Southwest Berkeley SC6	Berkeley
13	Pole	Oakland Hills DAS N1	Oakland Hills
14	Pole	Oakland Hills DAS N2	Oakland Hills
15	Pole	Oakland Hills DAS N3	Oakland Hills
16	Pole	Oakland Hills DAS N3M	Oakland Hills
17	Pole	Oakland Hills DAS N4	Oakland Hills
18	Pole	Oakland Hills DAS N5	Oakland Hills
19	Pole	Oakland Hills DAS N5M	Oakland Hills
20	Pole	Oakland Hills DAS N6	Oakland Hills
21	Pole	Oakland Hills DAS N7M	Oakland Hills
22	Pole	Oakland Hills DAS N8	Oakland Hills
23	Pole	Oakland Hills DAS N9	Oakland Hills
24	Pole	Oakland Hills DAS N9A	Oakland Hills
25	Pole	Oakland Hills DAS N17	Oakland Hills

26	Pole	Oakland Hills DAS N17A	Oakland Hills
27	Pole	Oakland Hills DAS N18	Oakland Hills
28	Pole	Oakland Hills DAS N18A	Oakland Hills
29	Pole	Oakland Hills DAS N27	Oakland Hills
30	Pole	Oakland Hills DAS N28	Oakland Hills
31	Pole	Oakland Hills DAS N29	Oakland Hills
32	Pole	Oakland Hills DAS N30	Oakland Hills
33	Pole	Oakland Hills DAS N31	Oakland Hills
34	Pole	Oakland Hills DAS N32	Oakland Hills
35	Pole	2950 Kirker Pass Rd.	Concord
36	Pole	Marsh Creek DAS N1	Concord
37	Pole	Marsh Creek DAS N2	Concord
38	Pole	Marsh Creek DAS N4	Concord
39	Pole	Marsh Creek DAS N5	Concord
40	Pole	HW35/84-01	Kings Mountain
41	Pole	HW35/84-02	Kings Mountain
42	Pole	HW35/84-03	Kings Mountain
43	Pole	HW35/84-04	Kings Mountain
44	Pole	HW35/84-05	Kings Mountain
45	Pole	HW35/84-07	Kings Mountain
46	Pole	HW35/84-08	Kings Mountain
47	Pole	HW35/84-09	Kings Mountain
48	Pole	HW35/84-10	Kings Mountain
49	Pole	HW35/84-11	Kings Mountain
50	Pole	HW35/84-12	Kings Mountain
51	Pole	HW35/84-13	Kings Mountain

52	Pole	HW35/84-14	Kings Mountain
53	Pole	HW35/84-16	Kings Mountain
54	Pole	HW35/84-17	Kings Mountain
55	Pole	HW35/84-18	Kings Mountain
56	Pole	HW35/84-19	Kings Mountain
57	Pole	HW35/84-20	Kings Mountain
58	Pole	HW35/84-21	Kings Mountain
59	Pole	HW35/84-26	La Honda
60	Pole	HW35/84-27	La Honda
61	Pole	HW35/84-28	La Honda
62	Pole	HW35/84-29	La Honda
63	Pole	HW35/84-32	La Honda
64	Pole	HW35/84-35	La Honda

II. 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.”

Verizon’s facilities need to be transferred to the new pole at the locations identified below:

- Emeryville ODAS 22 (Location 6)
- Oakland Hills DAS N8 (Location 22)
- Oakland Hills DAS N9 (Location 23)
- Oakland Hills DAS N9A (Location 24)

2. GO 95, Rule 92.4C(2)(c), Ground Rods (Ground Electrodes) states:

“Ground rods shall be driven into the ground so that one end of the ground rod is at a minimum depth of 8 feet below the surface of the ground. The top end of the ground rod shall not be less than 1 foot below the surface of the ground.”

ESRB observed the top of the ground rod, supporting Verizon’s equipment, above ground at the following locations:

- Oakland Hills DAS N18 (Location 27)
- Marsh Creek DAS N1 (Location 36)

3. GO 95, Rule 94.3A, General Requirements states:

“Antennas shall meet the requirements of Class C equipment, unless otherwise specified in this rule.”

GO 95, Rule 84.6B, 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, 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.”

The following locations exhibited exposed ground wires less than 7 feet above ground:

- Oakland Hills DAS N2 (Location 14)
- Oakland Hills DAS N17 (Location 25)
- HW35/84-21 (Location 58)

4. GO 95, Rule 94.3A, General Requirements states:

“Antennas shall meet the requirements of Class C equipment, unless otherwise specified in this rule.”

GO 95, Rule 89.3, Telephone Instruments on Poles or Structures states:

“Where a telephone instrument is attached to the surface of a pole or structure at less than 8 feet vertically above the ground (or at any elevation on a grounded metal pole or structure) and is connected to a private communication circuit constructed on the same pole line with, or colinear with, a Class H supply circuit, or is connected to a private communication circuit carried on crossarms with supply conductors of 750 - 22,500 volts, such instrument shall be enclosed in a suitable box of wood or equivalent insulating material, which shall be locked to prevent access by unauthorized persons. Where such a telephone instrument is so attached, connected, and enclosed, unless isolated from the communication circuit by an adequate insulating transformer, a suitably insulated stool or platform, on which a person can stand while using the instrument, shall be provided.”

The following locations are missing a lock on equipment supporting the antenna:

- Oakland Hills DAS N2 (Location 14)
- Oakland Hills DAS N3M (Location 16)

- Oakland Hills DAS N5 (Location 18)
- Oakland Hills DAS N5M (Location 19)
- Oakland Hills DAS N7M (Location 21)
- Oakland Hills DAS N8 (Location 22)
- Oakland Hills DAS N9 (Location 23)
- Oakland Hills DAS N9A (Location 24)
- Oakland Hills DAS N17 (Location 25)
- Oakland Hills DAS N18 (Location 27)
- Oakland Hills DAS N32 (Location 34)
- Marsh Creek DAS N1 (Location 36)
- HW35/84-26 (Location 59)
- HW35/84-35 (Location 64)

5. GO 95, Rule 94.4A, Clearances states in part:

“Antennas and supporting elements below supply lines shall maintain a vertical clearance of 6 feet from Supply Conductors operating at 0 – 50kV.”

The following locations do not meet the minimum required clearance of 6 feet from a Supply Conductor operating at 0-50 kV:

- Southwest Berkeley SC6 in Berkeley (Location 9)
- Emeryville ODAS 17 Hollis and Ocean (Location 5)
- HW35/84-05 (Location 44)
- HW35/84-07 (Location 45)
- HW35/84-08 (Location 46)
- HW35/84-09 (Location 47)
- HW35/84-10 (Location 48)
- HW35/84-13 (Location 51)
- HW35/84-16 (Location 53)
- HW35/84-32 (Location 63)
- Service voltage line is run along and in contact with communication line supporting Oakland Hills DAS N17A (Location 26).

6. GO 95, Rule 94.4B, Clearances states in part:

“Antennas and supporting elements below communication lines shall maintain a 2 ft. vertical separation from communication conductors and equipment.”

The antenna at Oakland Hills DAS N32 (Location 34) does not meet the minimum required vertical clearance of 2 feet from a communication conductor.

7. GO 95, Rule 94.5A, Marking states:

“Antennas shall be marked in accordance with Appendix H, including Exhibit A, to GO 95.”

- Verizon’s sign with applicable Federal Communications Commission (FCC) information is attached above the antenna at HW35/84-03 (Location 42).
- Verizon’s sign with applicable FCC information is attached above the antenna at HW35/84-09 (Location 47).
- Verizon’s sign with applicable FCC information is attached between two rows of antennas at HW35/84-26 (Location 59).

The following locations are missing a sign with required FCC information:

- Emeryville ODAS 12 (Location 4)
- HW35/84-08 (Location 46)
- HW35/84-32 (Location 63)
- HW35/84-35 (Location 64)

8. GO 95, Rule 94.5A, Marking states:

*“Joint use poles shall be marked with a sign for each antenna installation as follows:
 (1) Identification of the antenna operator
 (2) A 24-hour contact number of antenna operator for Emergency or Information
 (3) Unique identifier of the antenna installation.”*

The following locations are missing one or more of the markings listed in Rule 94.5A:

- Southwest Berkeley SC3 in Berkeley (Location 9)
- Oakland Hills DAS N2 (Location 14)
- Oakland Hills DAS N3M (Location 16)
- Oakland Hills DAS N5 (Location 18)
- Oakland Hills DAS N5M (Location 19)
- Oakland Hills DAS N7M (Location 21)
- Oakland Hills DAS N9A (Location 24)
- Oakland Hills DAS N18A (Location 28)
- Oakland Hills DAS N32 (Location 34)
- Marsh Creek DAS N1 (Location 36)
- Marsh Creek DAS N5 (Location 39)
- HW35/84-32 (Location 63)

9. GO 95, Rule 94.6B, Climbing Space states:

*“Climbing space above communication lines shall be maintained in accordance with Rule 84.7 to:
 (1) The bottom of the Antenna (including associated support elements) at the top of the pole or pole-top extension when affixed less than eight inches from the surface of the pole.
 (2) The top of the pole or pole-top extension if the Antenna (including associated support elements) is affixed more than eight inches from the surface of the pole or pole-top extension.”*

(3) The bottom of the uppermost Antenna (including associated support elements) if multiple Antennas are present at different levels.”

Vegetation was impeding climbing space at the following locations:

- Oakland Hills DAS N2 (Location 14)
- Oakland Hills DAS N7M (Location 21)
- HW35/84-02 (Location 41)
- HW35/84-03 (Location 42)
- HW35/84-04 (Location 43)
- HW35/84-26 (Location 59)
- HW35/84-28 (Location 61)

10. GO 95, Rule 94.6C, Climbing Space states:

“Antennas and all associated attachments shall not impair climbing space or interfere with fall restraint and fall protection equipment except as permitted by the application of Rule 54.7 or Rule 84.7.

Note: Examples of attachments that might not interfere with fall restraint and fall protection equipment include, but are not limited to, the following:

- (1) Surface-mounted equipment that occupies no more than 18 inches of vertical space.*
- (2) Equipment stood off from the pole to maintain a minimum of 4 inches of clear space between the equipment and the pole.*
- (3) Appropriately designed and installed surface-mounted risers.”*

Supporting equipment was not stood off a minimum of 4 inches from the pole at the following locations:

- HW35/84-05 (Location 44)
- HW35/84-09 (Location 47)
- HW35/84-10 (Location 48)
- HW35/84-13 (Location 51)