

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matters of)
)
 Petition of Cellco Partnership)
 For Exemption from 47 CFR § 17.47(b):)
 Vanguard Monitoring System)
)
 AND)
)
 Petition of Cellco Partnership)
 For Exemption from 47 CFR § 17.47(b):)
 QLI Monitoring System)

MEMORANDUM OPINION AND ORDER

Adopted: May 24, 2019

Released: May 24, 2019

By the Deputy Chief, Wireless Telecommunications Bureau:

I. INTRODUCTION

1. Section 17.47(b) of the Commission’s rules requires antenna structure owners to conduct quarterly inspections of certain lighting systems;¹ section 17.47(c) exempts from that requirement systems that the Wireless Telecommunications Bureau has found to include self-diagnostic features sufficient to make the quarterly inspections unnecessary.² In this *Memorandum Opinion and Order*, we determine that the QLI Monitoring System (QLI) and Flash Technology Vanguard SC 370D Monitoring System (Vanguard) satisfy the criteria of 17.47(c) and that Verizon’s antenna structures using those systems are therefore exempt from the quarterly inspection requirement. As a result of this decision, other antenna structure owners also will be eligible for exemption from this inspection requirement upon certification that they use one of these monitoring systems in substantially the same manner as Verizon. Our actions today should encourage other tower owners to invest in state-of-the-art technologies so that they, too, will become capable of continuous monitoring of both their lighting systems and control devices.

II. BACKGROUND

2. Section 17.47(b) provides that the owner of any antenna structure that is registered with the Commission and that has been assigned lighting specifications pursuant to part 17 “[s]hall inspect at intervals not to exceed 3 months all automatic or mechanical control devices, indicators, and alarm systems associated with the antenna structure lighting to insure that such apparatus is functioning properly.”³ Section 17.47(c) exempts from this requirement “any antenna structure monitored by a system that the Wireless Telecommunications Bureau has determined includes self-diagnostic features sufficient to render quarterly inspections unnecessary, upon certification of use of such system to the

¹ 47 CFR § 17.47(b).

² 47 CFR § 17.47(c).

³ 47 CFR § 17.47(b).

Bureau.”⁴ Verizon owns and manages antenna towers across the United States that are subject to the Commission’s lighting requirements in Part 17 of the Rules. Verizon filed with the Bureau two petitions asking us to determine that the self-diagnostic functions of the QLI and Vanguard systems are sufficiently robust to ensure that the control devices, indicators, and alarm systems on antenna structures using either of the systems are operating properly, such that quarterly inspection is unnecessary.⁵ Verizon asserts that the QLI and Vanguard systems are each designed to ensure that “critical information” on each tower is available on a “continuous basis” to Verizon’s primary and backup Network Operations Call (NOC) centers, which are “staffed 24 hours [a] day, 365 days a year.”⁶ Verizon describes the alarm notification, 24-hour polling, manual contact, and staffing and fail-safe procedures of the systems as set forth below.⁷

3. *Alarm notification.* Verizon states that both systems test for the following conditions, which produce “major” alarms: beacon/strobe failure (including consecutive missed flashes); beacon/strobe communication failure; photo cell failure; power failure; and site communication failure. It further states that both systems also test for the following conditions, which produce “minor” alarms: low flash energy; and side marker failure.⁸

4. According to Verizon, both systems directly contact Verizon’s NOC center for all types of alarm conditions. Asynchronous alert messages (SNMP TRPS) are transmitted from the remote Tower Light Controller to the remote SNMP Manager. The SNMP Manager creates a trouble ticket/alarm that is assigned to the NOC center and local cell site technician/field engineer for resolution. There are three specific categories of alarms: (1) “critical” for alerts whose severity level indicates a Notice to Airmen (NOTAM) worthy event; (2) “warning” for alerts indicating that maintenance is needed on a component of the lighting system, not necessarily requiring NOTAM; and (3) “info” for alerts providing diagnostic information, not indicative of NOTAM. These alarms trigger an automatic escalation within the NOC center to ensure the nature and cause of the alarm are analyzed within 30 minutes. All alarm events are captured and archived in Verizon’s Workbench 360 database.⁹

5. According to Verizon, when the NOC center receives an alarm, it validates the alarm through Verizon’s alert management console and performs a full review of diagnostic information to identify the nature of the failure and to determine whether a NOTAM is required. For a “critical” alert that requires a NOTAM to be issued, the appropriate FAA Flight Service Station (FSS) is notified, and the NOTAM is recorded in the Workbench 360 database using the reference number provided by the FSS. For a “warning” alert that does not require a NOTAM, the NOC center creates an internal trouble-ticket

⁴ 47 CFR § 17.47(c).

⁵ Petition of Celco Partnership (Verizon) For Exemption from 47 CFR § 17.47(b): Vanguard Monitoring System, dated and filed Oct. 12, 2018 (Verizon Vanguard Petition); Petition of Celco Partnership For Exemption from 47 CFR § 17.47(b): QLI Monitoring System, dated and filed Oct. 12, 2018 (Verizon QLI Petition) (collectively, Petitions). Pursuant to requests from the Wireless Telecommunications Bureau, Verizon supplemented its waiver requests on February 1, 2019 and February 27, 2019 with additional information regarding the technical characteristics and operational capabilities of the QLI and Vanguard systems. Because of the similarities between Verizon’s two monitoring systems, we address both Petitions in this Order.

⁶ Verizon Vanguard Petition at 3; Verizon QLI Petition at 3.

⁷ The Vanguard system is the next generation of Flash Technology’s Eagle Monitoring System. The Vanguard and Eagle systems are only compatible with Flash Technology equipment, whereas Verizon’s QLI System is designed to integrate with and monitor tower lighting equipment from multiple manufacturers. E-mail from Tamara Preiss, Vice President, Federal Regulatory Affairs, Verizon, to Jiaming Shang, Deputy Chief (Acting), Competition and Infrastructure Policy Division, Wireless Telecommunications Bureau, FCC (Feb. 1, 2019) (Verizon Supplement I).

⁸ Verizon Supplement I, attachment at 3-5.

⁹ Verizon QLI Petition at 3-5; Verizon Vanguard Petition at 3-5.

and assigns the ticket to a field technician and/or qualified vendor.¹⁰

6. Verizon states that, when repairs at the site are needed, a local field technician or qualified vendor is sent to conduct on-sight inspections and repairs. After any necessary repairs are completed, the site is tested to ensure the repairs have been effective. When that determination is made, the alert is cancelled, and the closure of the alert is recorded in the Workbench 360 database.¹¹

7. *24-hour polling.* Verizon states that the SNMP Manager is programmed to poll each Tower Light Controller once every 24 hours. During each daily poll, the SNMP Manager analyzes the alarm status of the following components: Tower Light Beacon, Marker, Photodiode, System Power, PLC Bindings, and synchronization of subordinate controllers. If contact cannot be made with the Tower Light Controller, the SNMP Manager sends an alarm to the NOC, and a NOC center technician will attempt to contact the site manually.¹²

8. *Manual contact.* Verizon states that both the QLI and Vanguard systems allow NOC center personnel to diagnose the status of the tower lights manually and remotely. NOC center personnel can contact any tower and review the status of the tower lighting and base station at any time.¹³

9. *Staffing and Fail-Safe Procedures.* According to Verizon, its primary and backup NOC centers are staffed with personnel trained to respond to alarms 24 hours a day, 365 days a year. In addition, both NOC centers and all remote tower sites have backup generators in the event of electric power failure so that communication with the tower site and control center is maintained even if there is a power outage. Each tower site has a dedicated IP address for the Tower Light Controller and an Ethernet local area network (LAN).¹⁴

10. According to Verizon, both systems sound an alarm within the NOC center if the system itself malfunctions. The systems gather data from each tower where a Tower Light Controller has been installed and communicates electronically every 24 hours to the alarm console monitored by the NOC center personnel. If no communication is received in a 24-hour period and the SNMP Manager cannot access the controller, an alarm is generated. As a result, the NOC center personnel know within 24 hours if the SNMP management servers and the alarm console are out of service.¹⁵

11. Verizon has written protocols and training for NOC center personnel for use of the QLI and Vanguard systems and procedures for responding to alarms. All personnel follow the same procedures for responding to an alarm, opening a trouble ticket, issuing a NOTAM (if necessary), resolving the trouble ticket, and recording the event and steps taken in response.¹⁶

12. Verizon uses two NOC centers, which are located in Bedminster, New Jersey and Southlake, Texas. According to Verizon, both NOC centers have the “same capabilities” and serve as “functional backups” to one another. The existence of two NOC centers is an important fail-safe mechanism, as it allows the backup center to assume monitoring responsibilities in the event of a

¹⁰ Verizon QLI Petition at 4; Verizon Vanguard Petition at 4.

¹¹ Verizon QLI Petition at 4; Verizon Vanguard Petition at 4; Verizon Supplement I, attachment at 2.

¹² Verizon QLI Petition at 4; Verizon Vanguard Petition at 4.

¹³ Verizon QLI Petition at 5; Verizon Vanguard Petition at 4.

¹⁴ Verizon QLI Petition at 5; Verizon Vanguard Petition at 5.

¹⁵ Verizon QLI Petition at 5; Verizon Vanguard Petition at 5.

¹⁶ Verizon QLI Petition at 5; Verizon Vanguard Petition at 5.

catastrophic failure at the primary center.¹⁷

13. Verizon argues that the Wireless Telecommunications Bureau should determine that the QLI and Vanguard systems are sufficient to render quarterly inspections unnecessary. Verizon focuses on similarities between the QLI and Vanguard systems and other automatic monitoring systems that the Commission or Bureau have previously found sufficient to dispense with quarterly inspections.¹⁸ For example, Verizon maintains that the QLI and Vanguard systems are both similar to the automatic monitoring systems employed by American Tower Corporation, Global Signal, Diamond Communications, Optasite, and Mobilitie, all of which were previously granted waivers and are now exempt from quarterly inspection requirements.¹⁹ According to Verizon, the QLI and Vanguard systems are analogous to the other systems because, like them, the Verizon systems each have “a continuous and permanent two-way link between the tower site and the [owner’s] response center; timely reporting of potential problems; continuously staffed response centers; 24-hour polling of both lighting and communications systems; on-demand interrogation capabilities; backup response centers; and essentially uninterrupted communications between the response center and the towers during power outages.”²⁰

III. DISCUSSION

14. We find that the QLI and Vanguard monitoring systems “include[] self-diagnostic features sufficient to render quarterly inspections unnecessary.”²¹ These systems are similar to the monitoring systems evaluated in other orders because they include self-diagnostic features that ensure timely detection of alarm system failures; operations centers are staffed with trained personnel capable of responding to alarms 24 hours per day, 365 days per year; and there is a backup NOC center that is capable of assuming monitoring responsibilities in the event of catastrophic failure at the primary NOC center.²² Notably, the Vanguard system is the next generation of Flash Technology’s Eagle Monitoring System, which the Bureau found sufficient to justify eliminating quarterly inspection requirements for

¹⁷ Verizon Supplement I, attachment at 2.

¹⁸ Before creating the procedure for exemptions in section 17.47(c), the Commission granted limited *waivers* of section 17.47(b) and permitted antenna structure owners to conduct annual, rather than quarterly, inspections. After 2014, section 17.47(c) rendered such waivers unnecessary.

¹⁹ See *Requests of American Tower Corporation and Global Signal, Inc. to Waive Section 17.47(b) of the Commission’s Rules*, Memorandum Opinion and Order, 22 FCC Rcd 9743 (2007) (*ATC/GSI Waiver Order*); *Petition of Optasite Towers LLC for Waiver of Section 17.47(b) of the Commission’s Rules*, Memorandum Opinion and Order, 22 FCC Rcd 18456 (WTB 2007) (*Optasite Waiver Order*); *Request of Global Tower LLC for Waiver of 47 CFR § 17.47(b)*, Memorandum Opinion and Order, 23 FCC Rcd 16531 (WTB 2008) (*Global Tower Waiver Order*); *Request of Mobilitie LLC for Waiver of 47 CFR § 17.47(b)*, Memorandum Opinion and Order, 24 FCC Rcd 11949 (WTB 2009) (*Mobilitie Waiver Order*); *Joint Petition of Diamond Communications LLC, Diamond Towers LLC, Diamond Towers II LLC, and Diamond Towers III LLC for Waiver of 47 CFR § 17.47(b)*, Memorandum Opinion and Order, 27 FCC Rcd 11101 (WTB 2012) (*Diamond Waiver Order*); *American Tower Corporation Request for Waiver of 47 CFR § 17.47*, Memorandum Opinion and Order, 28 FCC Rcd 294 (WTB 2013) (*American Tower Waiver Order*).

²⁰ *Global Tower Waiver Order*, 23 FCC Rcd at 16532, para. 7.

²¹ 47 CFR § 17.47(c).

²² See *supra* note 19; see also *Crown Castle USA Inc. Request for Waiver of 47 CFR § 17.47(b)*, Memorandum Opinion and Order, 22 FCC Rcd 21881 (WTB 2007); *TowerSentry LLC Request for Waiver of 47 CFR § 17.47(b) and Joint Petition of Diamond Communications LLC and Diamond Towers LLC for Waiver of 47 CFR § 17.47(b)*, Memorandum Opinion and Order, 24 FCC Rcd 10274 (WTB 2009); *Petition of Insite Towers LLC and TowerCo Assets LLC and TowerCo II LLC for Waiver of 47 CFR § 17.47(b)*, Memorandum Opinion and Order, 25 FCC Rcd 14542 (WTB 2010); *Crown Castle USA Inc., AT&T Services Inc. Request for Waiver of 47 CFR § 17.47(b)*, Memorandum Opinion and Order, 27 FCC Rcd 4313 (WTB 2012); *Southern Company Services, Inc. Request for*

(continued....)

other tower owners in three prior orders.²³ Therefore, the QLI and Vanguard systems, when used in the manner described by Verizon, justify an exemption from the quarterly inspection requirement of section 17.47(b).

15. Consistent with previous Commission and Bureau orders, we find that the QLI and Vanguard systems include self-diagnostic features sufficient to render quarterly inspections unnecessary. QLI and Vanguard are safe and reliable monitoring systems with tracking mechanisms that ensure proper functioning of their remote monitoring technology. Both systems directly contact Verizon's NOC center for all types of alarm conditions, and the NOC center personnel analyze the nature and cause of each alarm within 30 minutes. This process ensures that lighting system failures are identified and analyzed in a timely manner and that, when necessary, NOTAM or "warning" alerts can be issued immediately after alarm conditions are detected. Likewise, the SNMP Manager polls each Tower Light Controller once every 24 hours, and NOC center personnel can manually and remotely diagnose the status of the tower lights at any time. These capabilities ensure that the automatic monitoring systems are functioning properly, or that the NOC center personnel are notified quickly when a system is not functioning properly. In addition, Verizon employs a team of technicians and qualified vendors, which can be promptly dispatched to any of Verizon's tower sites to conduct inspections or complete repairs in a short amount of time. Finally, both of Verizon's NOC centers are staffed 24 hours per day, 365 days per year; both NOC centers have backup power generators; and both NOC centers are designed to assume monitoring responsibilities in the event of a catastrophic failure at the other NOC center. These fail-safe procedures ensure that robust monitoring of the towers will continue even if one of the NOC centers is rendered inoperable.

16. Based on the record before us, the Bureau finds that use of the QLI or Vanguard system, when operated in the manner described in this Order, is sufficient to render quarterly inspections unnecessary. Therefore, upon certification of use of these systems, Verizon – and any other antenna structure owner that may employ either of the systems – is exempt from section 17.47(b). Specifically, an antenna structure owner will be exempt from the quarterly inspection obligation for an antenna structure upon providing a certification that: (1) the structure is monitored by either the QLI or Vanguard system under the process described in this Order; and (2) the owner maintains a facility to receive notifications of failures from the QLI or Vanguard system, which will enable the tower owner to carry out its responsibilities under Part 17 of the Commission's rules.²⁴ Our actions today should encourage other tower owners to invest in state-of-the-art technologies so that they, too, will become capable of continuous monitoring of both their lighting systems and control devices.

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Waiver of 47 CFR § 17.47(b), Memorandum Opinion and Order, 28 FCC Rcd 300 (WTB 2013); *SBA Communications Corporation and International Tower Lighting, LLC Request for Waiver of 47 CFR § 17.47(b)*, Memorandum Opinion and Order, 29 FCC 1749 (WTB 2014).

²³ *Optasite Waiver Order*, 22 FCC Rcd at 18456, para. 8; *Mobilitie Waiver Order*, 24 FCC Rcd at 11949, para. 9; *Global Tower Waiver Order*, 23 FCC Rcd at 16532, para. 9.

²⁴ See *2004 and 2006 Biennial Regulatory Reviews – Streamlining and Other Revisions of Parts 1 and 17 of the Commission's Rules Governing Construction, Marking and Lighting of Antenna Structures; Amendments to Modernize and Clarify Part 17 of the Commission's Rules Concerning Construction, Marking and Lighting of Antenna Structures*, Report and Order, 29 FCC Rcd 9787, 9801, para. 34 (2014).

IV. ORDERING CLAUSE

17. Pursuant to sections 4(i), 303(q), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(q), 303(r), and pursuant to sections 0.131, 0.331 and 17.47(c) of the Commission's Rules, 47 CFR §§ 0.131, 0.331, 17.47(c), the Petitions filed by Cellco Partnership ARE GRANTED.

FEDERAL COMMUNICATIONS COMMISSION

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