

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

In the Matter of
Petition of Vertical Bridge REIT, LLC and
Drake Services, Inc. for Exemption from
47 C.F.R. § 17.47(b)

MEMORANDUM OPINION AND ORDER

Adopted: March 26, 2024

Released: March 26, 2024

By the Deputy Bureau 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; section 17.47(c) exempts from that requirement systems that the Wireless Telecommunications Bureau (Bureau) has found to include self-diagnostic features sufficient to make the quarterly inspections unnecessary. On August 22, 2022, Vertical Bridge REIT, LLC (Vertical Bridge) and Drake Services, Inc. (Drake) (collectively the Petitioners) filed a petition for exemption from 47 CFR § 17.47(b) under 17.47(c). In addition, Drake requests that “other tower owners using the Drake System be allowed to obtain the same relief as Vertical Bridge, on an expedited basis, by submitting a signed certification that they are using the Drake System on their towers.”

2. In this Memorandum Opinion and Order, we determine that the Drake Tower Light Monitoring System (DMS) satisfies the criteria of section 17.47(c) and that Vertical Bridge’s antenna

1 47 CFR § 17.47(b).

2 47 CFR § 17.47(c).

3 Petition of Vertical Bridge REIT, LLC and Drake Services, Inc. for Exemption from 47 C.F.R. § 17.47(b), dated and filed Aug. 22, 2022 (Petition). On February 10, 2023, the Bureau’s Competition and Infrastructure Policy Division (CIPD) requested additional information. See Letter from Garnet Hanly, Chief, Competition and Infrastructure Policy Division, Wireless Telecommunications Bureau, to Richard Hickey, Director, Regulatory Compliance, Vertical Bridge REIT, LLC (February 10, 2023). On February 24, 2023, Vertical Bridge supplemented its waiver request with information regarding the technical characteristics and operational capabilities of the Drake System. See Letter from Richard Hickey, Director, Regulatory Compliance, Vertical Bridge REIT, LLC, and David Shepard, President, Drake Services, Inc. to Garnet Hanly, Chief, Competition and Infrastructure Policy Division, Wireless Telecommunications Bureau (February 24, 2023) (Vertical Bridge Supplement). On October 17, 2023, CIPD sent a second request for additional information. See Letter from Garnet Hanly, Chief, Competition and Infrastructure Policy Division, Wireless Telecommunications Bureau, to Richard Hickey, Director, Regulatory Compliance, Vertical Bridge REIT, LLC (October 17, 2023). On November 9, 2023, Vertical Bridge supplemented its waiver request with additional information regarding the technical characteristics and operational capabilities of the Drake System. See letter from Richard Hickey, Director, Regulatory Compliance, Vertical Bridge REIT, LLC, and David Shepard, President, Drake Services, Inc., to Garnet Hanly, Chief, Competition and Infrastructure Policy Division, Wireless Telecommunications Bureau (November 9, 2023) (Vertical Bridge Supplement II).

4 Petition at 1.

structures using that system are therefore exempt from the quarterly inspection requirement. We also establish an expedited process by which other users of the DMS may apply for an exemption under 17.47(c). 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

3. 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 of the Commission's rules "[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."⁵ 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 Bureau."⁶

4. Vertical Bridge states that it is the "largest privately-owned tower company in the United States, owning over 9,000 structures."⁷ Drake Services is a LED lighting and monitoring systems manufacturer.⁸ The Petition asks us to determine that the self-diagnostic functions of the DMS are sufficiently robust to ensure that the control devices, indicators, and alarm systems on antenna structures using the DMS are operating properly, such that quarterly inspections are unnecessary.⁹ The Petitioners argue that the quarterly inspections of antenna monitoring systems mandated by section 17.47(b) have been rendered unnecessary because of technological advancements associated with the DMS.¹⁰ The Petitioners ask us to provide the same relief granted to other similarly robust systems in the past, and "grant an exemption from Section 17.47(b) so that Vertical Bridge towers using the Drake System will be relieved of all periodic inspection obligations for its towers monitored using the Drake System",¹¹ pursuant to section 17.47(c).¹²

5. Specifically, the Petitioners assert that the DMS is "among the most flexible, technologically-sophisticated monitoring system in the market today",¹³ and that "[s]ince being introduced to the industry in 2019, the Drake System has a flawless record of performance, having

⁵ 47 CFR § 17.47(b).

⁶ 47 CFR § 17.47(c).

⁷ *Petition* at 3.

⁸ *Id.* at 4.

⁹ *Id.* at 10.

¹⁰ *Id.*

¹¹ *Id.*

¹² 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. *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, 9799-9802 (2014) (*Part 17 Order*).

¹³ *Petition* at 4.

accurately flagged 100 instances in which a Notice to Airman¹⁴ (NOTAM) was required, with zero false positives or notification failures.¹⁵ Petitioners contend that the DMS is not only safe and reliable, but similar to systems that have previously supported waiver grants.¹⁶ Petitioners claim that the DMS employs self-diagnostic functions that are sufficiently robust so as to make unnecessary quarterly inspections to ensure that the control devices, indicators, and alarm systems on the towers are operating properly.¹⁷ Petitioners also maintain that the DMS provides the functional equivalent of a continuous inspection of control devices on all towers it monitors. As a result, Petitioners assert that Drake can detect all failure modes of the obstruction lighting system or monitoring device itself nearly instantaneously.¹⁸ In support of these assertions, the Petitioners describe the alarm notification, 24-hour polling, manual contact, staffing and fail-safe procedures of the systems as set forth below.

6. *Alarm notification.* The DMS is comprised of Radio Transmit Unit Controllers (RTU), cloud-based monitoring platform software (Cloud Server), and a network operations center (NOC). The RTUs activate alarms when the “self-diagnostic function determines that there is a lighting malfunction.”¹⁹ The DMS classifies alarms as either critical or non-critical/informational,²⁰ with beacon/strobe/flashing sidelight failure, beacon/strobe communication failure, photo cell failure, site communication failure, power failure, Sync failure, IR [infrared] failure, low flash energy, and consecutive missed flashes treated as critical,²¹ and with non-flashing side marker failure classified as non-critical.²² The RTU receives alarms from each DMS monitored tower, which are then relayed to the Cloud Server to generate alerts for staff at the NOC.²³ The NOC acknowledges the alarm on the Cloud Server and NOC personnel process the correct notifications and/or alerts within minutes of the receipt of the alarm.²⁴ A NOC technician will respond to the alert and remotely access the monitoring equipment at the site. An evaluation of the alarm is made, and remote diagnostics are performed to rectify and clear the alarm if possible.²⁵ If a NOTAM is warranted, it is then created and documented on the Cloud Server.²⁶ Once the NOTAM has been created, the NOTAM status is changed on the monitoring platform and the alarm alerts are stopped. The initial NOTAM is opened for 72-hours to allow for additional efforts to

¹⁴ Effective December 2, 2021, the Federal Aviation Administration (FAA) changed the acronym NOTAM from Notice to Airmen to the more applicable term Notice to Air Missions, which is inclusive of all aviators and missions. See U.S. Department of Transportation, Federal Aviation Administration, Air Traffic Organization Policy Change JO 7930.2S, CHG 2 (December 2, 2021).

¹⁵ *Petition at 5.*

¹⁶ *Petition at 5, 10; See also In the Matter of Requests of American Tower Corporation and Global Signal, Inc., to Waive Section 17.47(b) of the Commission’s Rules*, WT Docket No. 05-326, Memorandum Opinion and Order, 22 FCC Rcd 9743 (2007) (*ATC and Global Tower Waiver Order*) (waiving section 17.47(b) requirements for users of the Eagle and Hark Systems).

¹⁷ *Petition at 5, 10.*

¹⁸ *Petition at 5, Exhibit 1, pgs. 3, 4.*

¹⁹ *Petition at 6.*

²⁰ *Vertical Bridge Supplement at 1; Vertical Bridge Supplement II at 1-2.*

²¹ *Vertical Bridge Supplement II at 1-2.*

²² *Id at 2.*

²³ *Petition at 7; Vertical Bridge Supplement at 3.*

²⁴ *Petition at 7, Exhibit 1, pgs. 8, 10, 11; Vertical Bridge Supplement at 3.*

²⁵ *Petition at 7, Exhibit 1, pg. 11; Vertical Bridge Supplement at 3.*

²⁶ *Petition at 7; Vertical Bridge Supplement at 3.*

clear the NOTAM.²⁷ If the alarm has not cleared during this initial 72-hour period, the NOTAM is extended for 15 days while field action is undertaken.²⁸ The NOTAM on the monitoring platform remains until a site technician clears the alarm.²⁹ All alarms, events, cases, polled data, and trap logs are recorded in an electronic database and stored for 5 years.³⁰

7. *24-hour polling.* The DMS is programmed to proactively initiate a connection to each monitored site multiple times per hour to verify the connectivity and alarm status.³¹ Every 20 minutes, the cloud server transmits a “Poll” to the site, to confirm connectivity and document all metrics.³² In the event communications are lost, the system will initiate an alert to NOC personnel for further action as noted above.

8. *Manual contact.* The DMS allows NOC technicians to “control lighting systems mode and reset the equipment remotely for any light manufacturer’s equipment.”³³ With direct remote network access to the equipment over their private network, the DMS can reboot, initiate mode changes, or reconfigure other parameters, thereby creating a “fully manageable remote system.”³⁴ As a result, NOC personnel can remotely perform diagnostics and troubleshoot a problem, potentially correcting it remotely.³⁵ If the problem cannot be corrected remotely, a NOTAM is created as noted above and the tower owner is contacted to issue work orders to contractors to repair the failure at the tower site.³⁶

9. *Staffing and Fail-Safe Procedures.* As noted above, the RTUs activate alarms when the self-diagnostic function determines that there is a lighting malfunction. These devices are “microcontroller-based, highly sophisticated and programmable, and are equipped with internal battery backups to permit alarm transmission when power outage occurs at a site.”³⁷ The DMS also allows NOC personnel to remotely perform inspections on the fly to ensure normal operation.³⁸ In addition, Drake monitors server health at both the physical and operating system levels at all times (24 hours a day, year around), including monitoring software (that is external to the server) to ensure that the server components of the system are running properly.³⁹

²⁷ *Vertical Bridge Supplement* at 3.

²⁸ *Vertical Bridge Supplement* at 3-4.

²⁹ *Vertical Bridge Supplement* at 3.

³⁰ *Vertical Bridge Supplement* at 4.

³¹ *Petition* at 5, 7, Exhibit 1, pgs. 3, 4; *Vertical Bridge Supplement* at 3.

³² *Petition* at 7, Exhibit 1, pg. 4; *Vertical Bridge Supplement* at 2.

³³ *Petition* at Exhibit 1, pg. 5.

³⁴ *Id.*

³⁵ *Petition* at 8, Exhibit 1, pgs. 2, 3, 5.

³⁶ *Vertical Bridge Supplement* at 4.

³⁷ *Petition* at 6; *Vertical Bridge Supplement Attachment A.*

³⁸ *Petition* at 8, Exhibit 1, pgs. 2, 3, 5.

³⁹ *Vertical Bridge Supplement* at 4.

10. To monitor the alarms, Drake's NOC and backup NOCs are staffed with trained personnel capable of responding to alarms 24 hours per day, 365 days per year,⁴⁰ which allows personnel to quickly shift to the backup NOC in the event that the primary NOC is compromised.⁴¹ Should the primary NOC become compromised, "alert notifications are sent instantly from the cloud-based phone system to the cell phones of all NOC staff. The back-up NOCs can be remotely activated and made fully operational by staff within 30 minutes."⁴²

11. The primary NOC, which includes a backup natural gas generator that helps prevent power failure at the facility, is located in Paducah, KY.⁴³ In addition, according to Drake, catastrophic failure at the NOC is only an "inconvenient temporary disruption for people, and in no way effects [sic] monitoring services or alarm notifications."⁴⁴ Customers and NOC personnel will have continued access to the monitoring platform from multiple locations because the platform resides on multiple virtual machines located in multiple physical regions, and not on hardware that requires any of Drake's facilities to be operable. The "destruction of all Drake facilities will have no effect on the system because access to the platform is available from any web capable device."⁴⁵ However, should the primary NOC fail, Drake also has backup NOCs in Franklin, TN and Charleston, SC, as well as a business partner in Coteau-du-lac Quebec, Canada, which could provide limited system access on an interim basis while service to one or more of the NOCs is restored.⁴⁶ The existence of multiple NOC centers is an important fail-safe mechanism as it allows a backup center to assume monitoring responsibilities in the event of a catastrophic failure at the primary center, ensuring that robust monitoring of the towers will continue unimpeded.⁴⁷

12. Further, there is battery backup at both the tower sites and the NOC, as well as redundant communications systems available to the DMS.⁴⁸ Facility-wide backup power has been installed both at the primary and backup NOCs, which can provide back-up power indefinitely.⁴⁹ The Drake System DM-RTUs are microcontroller-based and are equipped with internal battery backups to permit alarm transmission when power outage occurs at a tower site.⁵⁰ In addition, the DMS maintains a continuous and permanent two-way link between each of the tower sites and the response center through multiple fiber lines from multiple carriers.⁵¹ The NOC technician "decides which carrier to use for each application based on carrier availability and si[gnal] strength and can manually change carriers at any

⁴⁰ *Petition* at 6, 9, Exhibit 1, pgs. 8, 12. During normal working hours there are at least 3-4 staff members working at the primary NOC, with at least one staff member physically present and two additional staff members on call at all times (24 hours a day, year-round). *Vertical Bridge Supplement* at 3.

⁴¹ *Vertical Bridge Supplement* at 3.

⁴² *Id.*

⁴³ *Vertical Bridge Supplement* at 2.

⁴⁴ *Petition* at Exhibit 1, pg. 5.

⁴⁵ *Id.*

⁴⁶ *Petition* at Exhibit 1, pg. 3; *Vertical Bridge Supplement* at 2-3.

⁴⁷ *Petition* at Exhibit 1, pg. 3.

⁴⁸ *Petition* at 6, Exhibit 1, pgs. 2, 6, 7, 12; *Vertical Bridge Supplement* at 2-3, Attachment A; *Vertical Bridge Supplement II* at 2-3.

⁴⁹ *Vertical Bridge Supplement* at 2.

⁵⁰ *Petition* at 6; *Vertical Bridge Supplement* at Attachment A; *Vertical Bridge Supplement II* at 2-3.

⁵¹ *Petition* at Exhibit 1, pg. 7; *Vertical Bridge Supplement* at 2.

time in the event of signal degradation or system failure”.⁵² The built-in redundancies ensure that the DMS notifications are sent immediately in the event of an alarm.⁵³

III. DISCUSSION

13. We find that the DMS “includes self-diagnostic features sufficient to render quarterly inspections unnecessary”⁵⁴ and is similar to the monitoring systems we have evaluated in other orders. On May 15, 2007, the Commission granted American Tower Corporation (ATC) and Global Signal, Inc. (GSI) waivers of section 17.47(b) to allow annual, rather than quarterly, inspection of towers monitored by specified, technologically advanced monitoring systems.⁵⁵ In the 2014 *Part 17 Order*, the Commission granted exemptions from all inspection obligations to those entities previously granted a waiver for their antenna structures monitored by qualifying systems, as long as they continued to meet the advanced monitoring obligations to which they had already certified.⁵⁶ Since then, the Bureau has, on delegated authority, granted similar waivers to entities demonstrating that their systems were similarly robust, and were operated in a similar manner, to the systems described in the *ATC and Global Tower Waiver Order*.⁵⁷ Accordingly, we find that the DMS, when used in the manner described by Vertical Bridge, justifies an exemption from the quarterly inspection requirement of section 17.47(b) pursuant to section 17.47(c).

14. The technology that the DMS employs is similar to that exhibited by other monitoring systems that we have previously found to be sufficiently robust to support waivers based on the efficacy of their system and backup procedures. The DMS is similar in that it has a continuous and permanent two-way link between the tower site and the response center;⁵⁸ timely reporting of potential problems;⁵⁹ continuously staffed response centers;⁶⁰ 24-hour polling of both lighting and communications systems;⁶¹ on demand interrogation capabilities;⁶² backup response centers;⁶³ and essentially uninterrupted communications between the response center and the towers during power outages.⁶⁴

⁵² *Vertical Bridge Supplement* at 2.

⁵³ *Petition* at Exhibit 1, pg. 3.

⁵⁴ 47 CFR § 17.47(c).

⁵⁵ See *ATC and Global Tower Waiver Order*, 22 FCC Rcd 9743 at 9748 (2007), para. 18.

⁵⁶ *Part 17 Order*, 29 FCC Rcd at 9801, para 34.

⁵⁷ See, e.g., *United States Cellular Corporation Request for Waiver of 47 C.F.R. § 17.47(b)*, Memorandum Opinion and Order, 30 FCC Rcd 5026 (WTB 2015); *Petition of Cellco Partnership For Exemption from 47 CFR § 17.47(b): Vanguard Monitoring System*; *Petition of Cellco Partnership For Exemption from 47 CFR § 17.47(b): QLI Monitoring System*, Memorandum Opinion and Order, 34 FCC Rcd 3759 (WTB 2019); *In the Matter of American Electric Power Service Corporation Request For Waiver of 47 C.F.R § 17.47*, Memorandum Opinion and Order, DA 23-43, released Jan 19, 2023. See also *Part 17 Order*, 29 FCC Rcd at 9801, para 34.

⁵⁸ *Vertical Bridge Supplement* at 2.

⁵⁹ *Petition* at 5, Exhibit 1, pg. 3, 11.

⁶⁰ *Petition* at 6, 9, Exhibit 1, pg. 8; *Vertical Bridge Supplement* at 2.

⁶¹ *Petition* at 5, 7, Exhibit 1, pgs. 3, 4; *Vertical Bridge Supplement* at 2, 3.

⁶² *Petition* at 5, 8, Exhibit 1, pg. 5.

⁶³ *Petition* at 6, 9, Exhibit 1, pg. 3; *Vertical Bridge Supplement* at 2-3.

⁶⁴ *Petition* at 6, Exhibit 1, pg. 2; *Vertical Bridge Supplement* at 2, Attachment A.

15. Based on the record before us, and consistent with previous Commission and Bureau orders,⁶⁵ the Bureau finds that the DMS includes self-diagnostic features sufficient to render quarterly inspections unnecessary.⁶⁶ We conclude, based on the Petitioners' representations, that the DMS is a safe and reliable monitoring system with tracking mechanisms that ensure proper functioning of their remote monitoring technology. Such advanced technology provides the benefits of more rapid response in case of a lighting failure. As a result, the DMS, when used in the manner described in this Order, justifies an exemption from the quarterly inspection requirement of section 17.47(b). Therefore, pursuant to section 17.47(c), Vertical Bridge is exempt from section 17.47(b) with regard to any of its towers monitored by the DMS in the manner described in this Order. This will enable Vertical Bridge to more efficiently carry out its responsibilities under part 17 of the Commission's rules.⁶⁷

16. Further, pursuant to Drake's request, for any other antenna structure owner that employs the DMS in the manner described in this Order, we will grant, in an expedited manner, exemptions from section 17.47(b) upon satisfactory submission and review of a streamlined petition containing the following certifications: (1) the structure is monitored by the DMS under the process described in this Order;⁶⁸ and (2) the owner maintains a facility to receive notifications of failures from the DMS, which will enable the tower owner to carry out its responsibilities under Part 17 of the Commission's rules.⁶⁹ We find the latter certification necessary to ensure that tower owners receiving waivers remain equipped to comply with the Commission's regulations. The certification shall be signed, under penalty of perjury, by a company officer (or partner, sole proprietor or similar person able to act on behalf of the tower owner) with knowledge of the underlying facts. . 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.

⁶⁵ See *Petition of Optasite Towers L.L.C. for Waiver of Section 17.47(b) of the Commission's Rules*, Memorandum Opinion and Order, 22 FCC Rcd 18456 (WTB 2007); *In the Matter of Crown Castle USA Inc. Request for Waiver of 47 C.F.R. § 17.47(b)*, Memorandum Opinion and Order, 22 FCC Rcd 21881 (WTB 2007); *In the Matter of Request of Global Tower LLC for Waiver of 47 C.F.R. § 17.47(b)*, Memorandum Opinion and Order, 23 FCC Rcd 16531 (WTB 2008); *In the matter of TowerSentry LLC Request for Waiver of 47 C.F.R. § 17.47(b) and Joint Petition of Diamond Communications LLC and Diamond Towers LLC for Waiver of 47 C.F.R. § 17.47(b)*, Memorandum Opinion and Order, 24 FCC Rcd 10274 (WTB 2009); *In the matter of Request of Mobilitie, LLC for Waiver of 47 C.F.R. § 17.47(b) and Flash Technology Request for Waiver of 47 C.F.R. § 17.47*, Memorandum Opinion and Order, 24 FCC Rcd 11949 (WTB 2009); *American Tower Corporation Request for Waiver of 47 CFR § 17.47*, Memorandum Opinion and Order, 28 FCC Rcd 294 (WTB 2013); *United States Cellular Corporation Request for Waiver of 47 C.F.R. § 17.47(b)*, Memorandum Opinion and Order, 30 FCC Rcd 5026 (WTB 2015); *Petition of Cellco Partnership For Exemption from 47 CFR § 17.47(b): Vanguard Monitoring System; Petition of Cellco Partnership For Exemption from 47 CFR § 17.47(b): QLI Monitoring System*, Memorandum Opinion and Order, 34 FCC Rcd 3759 (WTB 2019); *In the matter of American Electric Power Service Corporation Request for Waiver of 47 C.F.R. § 17.47(b)*, Memorandum Opinion and Order, DA 23-43, released January 19, 2023.

⁶⁶ 47 CFR § 17.47(c).

⁶⁷ See *Part 17 Order*, 29 FCC Rcd at 9800-9801, paras. 31-34.

⁶⁸ Drake notes that "in cases where customers have their own monitoring or NOC facility Drake staff is the backup system for their obstruction lighting alert reporting." See *Petition* at Exhibit 1, pg. 5. We remind Drake that for any further waiver grants for those using the DMS, the Drake NOCs must be the primary and backup NOCs. This waiver grant does not apply to any customers that use their own NOC facility as the primary or backup NOC as they have not been reviewed by the Commission.

⁶⁹ *Part 17 Order*, 29 FCC Rcd at 9801, para. 34.

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 Petition filed by Vertical Bridge REIT, LLC and Drake Services, Inc. IS GRANTED.

FEDERAL COMMUNICATIONS COMMISSION

Kari L. Hicks
Deputy Bureau Chief, Wireless Telecommunications Bureau