

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

In the matter of)
)
Crown Castle USA Inc. Request for Waiver of)
47 C.F.R. § 17.47(b))

MEMORANDUM OPINION AND ORDER

Adopted: December 27, 2007

Released: December 28, 2007

By the Chief, Wireless Telecommunications Bureau:

I. INTRODUCTION

1. This *Memorandum Opinion and Order* addresses the request of Crown Castle USA Inc. (“Crown Castle”) for waiver of Section 17.47(b) of the Commission’s Rules, 47 C.F.R. § 17.47(b). Section 17.47(b) provides that the owner of any antenna structure that is registered with the Commission and 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.”¹ Crown Castle owns or operates more than 23,500 tower sites nationwide, and of these, 3,522 are owned towers subject to the quarterly inspection requirement.

2. Crown Castle argues that the quarterly inspections of antenna monitoring systems mandated by Section 17.47(b) of the Rules have been rendered unnecessary because of technological advancements associated with the particular monitoring systems that it employs -- the Opto 22 B3000 and Simple Com Tools Com 3000 Monitoring Systems (“Crown Monitoring Systems”). Crown Castle asks the Commission to waive the rule to permit annual inspections instead for its antenna structures that use these systems. For the reasons set forth below, we grant Crown Castle its request for relief.

II. BACKGROUND

3. On May 15, 2007, the Commission released an order granting to the American Tower Corporation (“ATC”) and to Global Signal, Inc. (“GSI”) waivers of Section 17.47(b) of the Rules to allow annual, rather than quarterly, inspection of towers monitored by specified, technologically advanced monitoring systems.² On October 15, 2007, the Wireless Telecommunications Bureau (“Bureau”) released an Order granting to Optasite Towers L.L.C. (“Optasite”) a similar waiver of Section 17.47(b) for its towers that are monitored using the same technology (the Eagle Monitoring System) as ATC.³ Crown Castle filed its instant waiver request on August 20, 2007, seeking the same relief that was granted

¹ 47 C.F.R. § 17.47(b).

² 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/GSI Waiver Order*).

³ 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) (*Optasite Waiver Order*).

to ATC, GSI and Optasite.⁴ Crown Castle asserts in its petition that the Crown Monitoring Systems are similar in quality and robustness to the systems employed by ATC (Eagle) and GSI (Hark).⁵ Crown Castle attaches to its petition exhibits describing relevant features of the Crown Monitoring Systems in detail.⁶

III. DISCUSSION

4. Section 1.925 of the Commission's Rules provides that, with respect to wireless telecommunications services, the Commission may grant a request for waiver if it is shown that: "(i) The underlying purpose of the rule(s) would not be served or would be frustrated by application to the instant case, and that a grant of the requested waiver would be in the public interest; or (ii) In view of unique or unusual factual circumstances of the instant case, application of the rule(s) would be inequitable, unduly burdensome or contrary to the public interest, or the applicant has no reasonable alternative."⁷ As discussed below, we grant a waiver to Crown Castle because we find that application of the quarterly inspection requirements of Section 17.47(b) to the towers in question is not necessary to serve the underlying purposes of the rule, and grant of the waiver is in the public interest. Based on the evidence presented, strict application of the rule to Crown Castle would be unduly burdensome and contrary to the public interest.

5. Crown Castle describes the Crown Monitoring Systems as highly accurate and reliable.⁸ Crown Castle states that its systems employ sophisticated, 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. Specifically, Crown Castle maintains that the Crown Monitoring Systems provide the functional equivalent of a continuous inspection of control devices on all towers it monitors, and as a result, users of the Crown Monitoring Systems are alerted to actual and potential problems immediately in many instances, or at most within 24 hours.⁹ In support of these contentions, Crown Castle describes the following features of its Crown Monitoring Systems:

(1) *Alarm notification.* The Monitoring Systems installed at the tower site receive alarms from the light controller, which contacts the Crown Castle Network Operations Call ("NOC") center for every type of alarm condition. Crown Castle categorizes these alarm conditions as "major alarms" (beacon/strobe failure, beacon/strobe communication failure, filter failure, low flash energy, consecutive missed flashes, photo cell failure, power failure, and site communication failure) and "minor alarms" (side marker failure).¹⁰ These alarms are captured and archived within the Monitoring System database, which has an automatic escalation protocol within the Crown Castle NOC to ensure that proper diagnostics are conducted within a 30 minute window. Within this time frame, the NOC contacts the site from which the alarm originated and performs full system diagnostics to identify the nature of the lighting failure and to determine if a Notice to Airmen ("NOTAM") should be issued.¹¹ If the issuance of a NOTAM is required, the proper

⁴In the Matter of Crown Castle USA Inc. Request for Waiver of 47 C.F.R. § 17.47(b), Request for Waiver, filed August 20, 2007 (*Crown Castle Waiver Request*).

⁵ *Id.* at 3-7.

⁶ *Id.* at Exhibits A, B.

⁷ 47 C.F.R. § 1.925(b)(3).

⁸ *Crown Castle Waiver Request* at 4.

⁹ *Id.* at 3-4.

¹⁰ *Crown Castle Waiver Request, Exhibit A* at 1-2.

¹¹ Antenna structure owners "shall report immediately by telephone or telegraph to the nearest Flight Service Station or office of the Federal Aviation Administration any observed or otherwise known extinguishment or improper
(continued....)

FAA Flight Service Station (“FSS”) is notified, and a NOTAM is noted in Crown Castle’s database using the number provided orally by the FSS.¹²

(2) *24-hour polling.* The Crown Monitoring Systems are programmed to proactively initiate a connection from each monitored site once every 24 hours. This call is automated and runs a complete system diagnosis of the lighting system. This process ensures the lighting system is both working and communicating properly. If any alarms or discrepancies are identified, the Crown Monitoring Systems immediately generate an alarm, triggering the NOC personnel to perform further in-depth analysis. The Crown Monitoring Systems are programmed to attempt to contact the NOC up to five times if the initial attempt fails and will then attempt to contact once per hour until communications have been restored. If contact is not made, the Crown Monitoring Systems generate a report and a NOC technician attempts to contact the site manually at least three more times. If the NOC technician is unable to connect to the tower, a trouble ticket is opened and a NOTAM is requested. The trouble ticket and NOTAM information are e-mailed to the appropriate Crown Castle field operations representative. The Crown Monitoring System documents this data in an electronic database and all information is maintained for five years.¹³

(3) *Manual contact.* The Crown Monitoring Systems allow for Crown Castle NOC technicians to perform a manual diagnostic review of any tower monitored by the system from any computer in the NOC. This function enables these personnel to contact any Crown Monitoring System at the tower and review the operational status of the tower’s lighting system at any time.¹⁴

6. The Crown Monitoring Systems employ a Network Operations Call (“NOC”) center that is staffed with trained personnel capable of responding to alarms 24 hours per day, seven days a week, 365 days per year.¹⁵ The NOC center also has the ability to communicate during limited power outages.¹⁶ Significantly, the Crown Monitoring Systems include a backup NOC center in the event of catastrophic failure at the primary NOC center, and specific procedures to follow in the event of such a catastrophic failure.¹⁷

7. The technology that the Crown Monitoring Systems employ is similar to that exhibited by the Eagle and Hark monitoring systems employed by ATC, GCI, and Optasite, which were granted waivers based on the efficacy of that technology. The three systems are similar in that they have a continuous and permanent two-way link between the tower site and the 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.

8. Crown Castle states that, particularly for towers in remote locations, quarterly inspection

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functioning of any top steady burning light or any flashing obstruction light, regardless of its position on the antenna structure, not corrected within 30 minutes.” 47 C.F.R. § 17.48(a). See FAA Circular AC-70/7460-1K, Chapter 2, Light Failure Notification.

¹² *Crown Castle Waiver Request, Exhibit A* at 3.

¹³ *Id.* at 3-4.

¹⁴ *Id.* at 4.

¹⁵ *Crown Castle Waiver Request* at 5.

¹⁶ *Id.* at 4.

¹⁷ *Crown Castle Waiver Request, Exhibit A* at 4.

imposes a substantial and unnecessary resource burden. Crown Castle contends that without relief it will continue to carry out 3,522 quarterly inspections totaling 14,088 annual site visits each year with no tangible benefit.¹⁸ Crown Castle states that it spent over \$2 million in 2005 to conduct the 14,088 site visits required by the Commission's quarterly inspection requirement.¹⁹ Further, Crown Castle asserts that not a single event was discovered during any of these quarterly inspections that required the issuance of a NOTAM under FCC rules.²⁰

9. For the reasons cited by the Commission in the *ATC/GSI Waiver Order*, and by the Bureau in the *Optasite Waiver Order*, we conclude, based upon the uncontested evidence submitted in the record by Crown Castle, that the *Crown Castle Waiver Request* establishes that quarterly inspections are unnecessary for those Crown Castle towers monitored by the Opto 22 B3000 and Simple Com Tools Com 3000 Monitoring Systems, and we therefore grant Crown Castle's waiver request.²¹ The Airspace and Rules Group of the Federal Aviation Administration has stated that it is not opposed to waivers of Section 17.47(b) "provided the applicant can demonstrate a safe and reliable automatic monitoring system with tracking mechanisms to evaluate the remote monitoring technology."²² We conclude that Crown Castle is operating safe and reliable monitoring systems with tracking mechanisms to evaluate the remote monitoring technology, and that features of these systems provide sufficiently robust monitoring of the control devices, indicators and alarm systems so as to render quarterly inspections unnecessary. Indeed, such advanced technology provides the benefits of more rapid response where there has been a lighting failure, and thus the public interest is served with respect to aircraft safety. In addition, granting Crown Castle's request for waiver will save Crown Castle millions of dollars and thousands of person hours annually that are unnecessarily spent on quarterly inspections where it has deployed this advanced technology.

IV. CONCLUSION

10. For the reasons discussed above, we waive Section 17.47(b) to allow Crown Castle, for its towers monitored using the Opto 22 B3000 and Simple Com Tools Com 3000 Monitoring Systems, to conduct inspections required by that section on an annual, rather than a quarterly, basis. The Opto 22 B3000 and Simple Com Tools Com 3000 Monitoring Systems reliably diagnose problems, including any failures of control devices, indicators and alarm systems, within real time, and therefore render strict application of the rule unnecessary to serve its underlying purpose. Moreover, this waiver will relieve Crown Castle of the burden of performing unnecessary quarterly inspections. In addition, granting this waiver request will encourage other tower owners to invest in similar state-of-the-art technologies so that they too will become capable of continuous monitoring of both their lighting systems and control devices.

11. We note that PCIA has filed a Petition for Rulemaking in which it requests, among other things, to amend Section 17.47(b) of the rules so as to exempt systems using NOC-based monitoring technology from the quarterly inspection requirement.²³ PCIA's Petition for Rulemaking was placed on

¹⁸ *Crown Castle Waiver Request* at 2-3.

¹⁹ *Id.* at 3.

²⁰ *Id.*

²¹ *ATC/GSI Waiver Order*, 22 FCC Rcd at 9747, 9748, ¶¶ 11, 17; *Optasite Waiver Order*, 22 FCC Rcd at 18456, ¶ 8.

²² Brief Comment of Office of Airspace and Rules, FAA, WT Docket No. 05-326, filed December 4, 2006.

²³ Petition for Rulemaking, RM-11349, In the Matter of Amendments to Modernize and Clarify Part 17 of the Commission's Rules Concerning Construction, Marking and Lighting of Antenna Structures, filed by PCIA – The Wireless Infrastructure Association on September 12, 2006.

Public Notice to allow interested persons to file statements opposing or supporting it.²⁴ This petition is currently pending before the Commission, and the waiver that we grant today is subject to any rule changes that the Commission may promulgate in that proceeding.

V. ORDERING CLAUSE

12. 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 1.925 of the Commission's Rules, 47 C.F.R. §§ 0.131, 0.331, 1.925, the Request for Waiver filed by Crown Castle IS GRANTED.

FEDERAL COMMUNICATIONS COMMISSION

Fred B. Campbell, Jr.
Chief, Wireless Telecommunications Bureau

²⁴ Consumer & Governmental Affairs Bureau Reference Information Center Petition for Rulemakings Filed, *Public Notice*, Report No. 2794 (rel. October 30, 2006). Comments were due on November 29, 2006.