

February 14, 2014

Marlene H. Dortch, Secretary  
Federal Communications Commission  
Office of the Secretary  
445 12th Street, SW  
Washington, DC 20554

Re: WT Docket No. 10-88

Dear Secretary Dortch:

Thank you for the opportunity to comment on the American Tower Corp's request for complete waiver of 17.47(b) of the commission's rules. As you know, Rule 17.47(b) requires antenna tower owners to inspect, at least once every three months, all automatic or mechanical control devices, indicators, and alarm systems on towers that must be lit (hereinafter referred to as "**Quarterly Inspections**").

We are writing to support ATC's request for a complete waiver of any physical inspections; provided, however that the Commission clarify that such waivers will only be granted to tower owners who are implementing a **technologically advanced monitoring system** that is truly capable of performing a remote lighting inspection.

Flash Technology, a provider of aviation obstruction lighting since 1969, developed the continuous remote tower monitoring system that was the basis of the initial ATC Waiver Request on May 19, 2005. "ATC was previously granted a partial waiver of the rule, permitting it to make annual rather than quarterly inspections, predicated on its use of its robust, continuous remote tower monitoring system."\* With this specific type of monitoring system Flash Technology believes that lighting inspections, of any frequency, are unnecessary.

\*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).

As ATC describes in its application, ATC's original waiver was granted in 2007 based on the use of Flash Technology's Eagle Monitoring System (the "**Eagle System**"). The original waiver was later revised to include American Tower Corporation's in-house

monitoring system (the “**ATC System**”) in 2013. Both systems maintain the following key features as detailed in previous waiver requests:

- (1) *Alarm notification.* The lighting system installed at each tower site is equipped with either ATC System or Eagle System software which contacts the Network Operations Center (“NOC”) for every type of alarm. These alarms are captured and archived in the ATC System database. The database has an automated escalation protocol within the NOC to ensure that proper diagnostics are conducted within a 30-minute window. In this 30-minute 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.
  
- (2) *24-hour polling.* The ATC System and the Eagle System are both programmed to proactively contact each monitored site once every 24 hours. This call is automated and initiates a complete system diagnosis of the lighting system. This diagnosis is completed for all lighting phases (i.e., night, day, twilight) regardless of the time of day the test call is conducted. This process ensures the lighting system is both working and communicating properly with the ATC System and the Eagle System. If any alarms or discrepancies are identified the ATC System (or the Eagle System, as applicable) immediately generates an alarm, triggering the NOC personnel to perform further in-depth analysis.
  
- (3) *Manual contact.* Both the ATC System and the Eagle System allow technicians to perform a manual diagnostic review of any tower monitored by the system from any computer with an Internet connection. This function allows the NOC, ATC Operations, and ATC compliance staff to contact any tower and review operational status of its lighting system.

Flash Technology maintains that the foregoing attributes are unique to systems that do not simply rely on “dry-contact” or one-way communication systems. As explained below in ATC’s original waiver request, dry-contact systems do not provide robust monitoring and inspection capabilities and can lead to false alarms, no alarms, and overall inadequate monitoring of the tower site:

“...used far less frequently now, and not at all by ATC, is the dry-contact system. This type of monitoring system is analogous to a light switch and monitors only whether power is being delivered to the tower lighting system. A wire circuit connects the monitoring system to a central control location. The system generates an alarm if the circuit loses power. However, an alarm can be triggered by several non-lighting system malfunctions, such as broken or shorted-out wiring. Moreover, it is possible that the dry-contact system will show

that power is being delivered to the lighting system even though a light is in fact out, and so no alarm will be generated despite a NOTAM-worthy event. In addition to these systems, many tower owners have relied on so-called FBI and ADEMCO systems, which also provide only one-way communications to the tower lighting system.”\*\*

\*\*Request for Waiver, WT Docket No. 05-326, filed May 19, 2005 (ATC Waiver Request).

Both the Eagle System and the ATC System rely on two-way communication and interactive monitoring with the actual lighting system through either a serial or Ethernet interface between the monitoring and lighting equipment.

ATC would now like to eliminate lighting inspections altogether for sites that employ the type of monitoring systems that can insure proper operation and accurate notification of failures. ATC argues that “[a] complete waiver would relieve ATC of its existing obligation to make annual on-site inspections of towers, an obligation that no longer serves any discernable purpose, and would further the public interest by encouraging other tower owners to implement technologically advanced monitoring systems.”

Flash Technology supports ATC’s request for a complete waiver; however, we believe that the Commission should grant such waivers only in instances where a truly technologically advanced monitoring system is in place. Such monitoring systems must have the ability to engage in two-way communications with the lighting system itself. Because a “dry contact” system does not provide this two-way communication, it does not allow for remote inspection of the lighting system. As a result, any “dry contact” type systems should not qualify for complete waivers and should still be subject to at inspections as provided in Rule 17.47(b).

Over the last 7 years, waivers of performing Quarterly Inspections have been granted to many tower companies based on monitoring programs similar to the Eagle System. These tower companies all employ systems that share a capability of “self-diagnostic functions that are sufficiently robust so as to make quarterly inspection unnecessary to ensure that the control devices, indicators, and alarm systems on the towers are operating properly.”\*\*\* Flash Technology has supported these efforts but feels that the requirements of the monitoring system used should be better defined.

\*\*\*In the Matter of Requests of American Tower Corporation, Request for Waiver of 47 C.F.R. § 17.47(b), *Memorandum Opinion and Order*, Released January 18, 2013.

Flash Technology asserts that a **technologically advanced monitoring system** would have the following characteristics in order to properly protect the public interest:

- Must verify the current status of the lighting system once every 24 hours (Title 47 CFR, part 17.47).
  - The communication and operational status of the lighting system should be checked once every 24 hours
- Notification of an outage (Title 47 CFR, part 17.48, AC 7460/1K, part 23,24)
  - Any NOTAM-worthy outage that lasts more than 30 minutes must be reported to the FAA (FSS) immediately
  - Must have NOTAM-worthy alarms separated from alarms that do not require NOTAMs.
  - Fail-safe alarming should be used
    - *Normally Open dry contact alarm points should not be used as the non-alarm state requires no action and could just as easily reflect the absence of alarm wires being hooked up never resulting in an alarm.*
    - *Normally Closed dry contact alarm points can be permanently closed with a jumper wire to silence alarms and have been known to be permanently fused shut during a lightning surge event. In both cases, an alarm would not be able to be detected. The only way to make sure the normally-closed contacts are wired and working properly is during an onsite lighting inspection or with a remote monitoring system that actually causes the lights to exhibit a failure thereby making sure the alarm circuitry is working properly.*
- Two-way communication with the lighting system, allowing for real-time interrogation of the status of the lighting equipment. Simply accepting alarms without the ability to interrogate the system and make sure all aspects of the system are working properly does NOT constitute a **technologically advanced monitoring system**.

Flash Technology maintains that a truly “**technologically advanced monitoring system**” such as that outlined above obviates the need for any on-site lighting inspections and agrees that a complete waiver should be granted for operators employing such systems, including ATC. However, care should be taken to define the standards for the allowable monitoring system that will insure the safe and accurate monitoring of aviation obstruction lighting. These systems should **not use contact closures of any kind** as the primary means of monitoring NOTAM-worthy alarms. If contact closures are used, two-way communication with the lighting system that allows for a remote lighting inspection to be performed is essential in verifying correct wiring that would otherwise be detected with an onsite inspection. Only systems that meet a

more strict set of requirements should be considered as **technologically advanced monitoring system** and the foundation of a complete lighting inspection waiver.

Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Lane". The signature is fluid and cursive, with the first name "Mark" being more prominent than the last name "Lane".

Mark Lane  
Director, Product Management  
Flash Technology