



## Updates You Need to Know About FAA Tower Lighting Requirements

By David Sheppard

The latest advisory circular, AC No. 70/7460-1L, reveals changes to Federal Aviation Administration tower marking that may necessitate lighting upgrades to mitigate potential liability.

Here is a review of some of the improvements to the FAA advisory circular AC No. 70/7460-1, which spells out tower lighting requirements. The latest version, L, has

greatly improved formatting that now meets the current government document standards. At the back of the advisory circular, the Appendix A drawings add color and modifications to better clarify the more complicated text in the publication. In the past, the use of color was frowned upon, but it

really gives some of the drawings more clarification.

For a full understanding of the changes you need to review the entire AC No. 70/7460-1L document.

With due credit to David Letterman, here is my top 10 list of the most important changes.

**10. Location (1.2) Preconstruction Notice** — This notification for preconstruction was 30 hours, and now it's 45 days.

**9. Location (1.4.2) 7460-2 Form Notification of Actual Construction**

**or Alteration** — With the previous version, you had to issue a 48-hour notification, and now you need to

<b>LOCATION (1.2)</b>		<b>10</b>
Preconstruction Notice		
<b>WAS</b>		<b>NOW</b>
<b>30</b>		<b>45</b>
hours		days

## LOCATION (1.4.2)

9

Notification of Actual Construction or Alteration

WAS

48

hours

NOW

10

days

## LOCATION (4.5)

8

Inspection of Lenses



Every

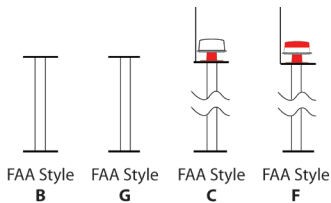
24

Months

## LOCATION (4.7.3)

7

Appurtenance Consideration



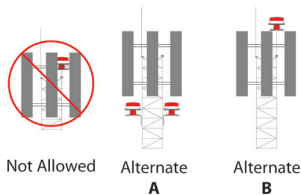
Appurtenance  
40' or less

Appurtenance  
exceeding 40'

## LOCATION (4.7.7)

6

Nesting of Lights



Not Allowed

Alternate  
A

Alternate  
B

give 10 days' notice before construction or alteration.

**8. Location (4.5) Inspection of Lenses** — In the previous versions, light lenses were required to be inspected during routine maintenance. The current standard sets a minimum of every 24 months.

**7. Location (4.7.3) Appurtenance Consideration** — This section deals with how you consider the appurtenance above the structure. If the structure is 700 feet (213 meters) or less, you include this appurtenance in the overall height of the structure. If the structure is above 700 feet (213 meters), you exclude it from the overall height of the structure. If the appurtenance exceeds 40 feet (12 meters) above the structure on a structure that is taller than 700 feet (213 meters), a medium-intensity obstruction light should be installed on it.

**6. Location (4.7.7) Nesting of Lights** — This has been addressed in the past, but the new publication makes this very clear and expresses what is allowed — nothing larger than a 7/8-inch obstruction.

**5. Location (4.8) Monitoring Obstruction Lights** — This section has been modified to better address the subject of monitoring lighting systems and what information should be kept in the site log.

**4. Location (4.10) Light Shields** — The use of light shields to control ground scatter of lighting systems is expressly forbidden.

**3. Location (5.4.1.d) Objects Larger than 7/8-inch in**

## LOCATION (4.8)

5

Monitoring Obstruction Light



Site Log Recorded Events

- Photocell Transition
- Light Intensity Changes
- Light Outages
- etc.

## LOCATION (4.5)

4

Inspection of Lenses



Every

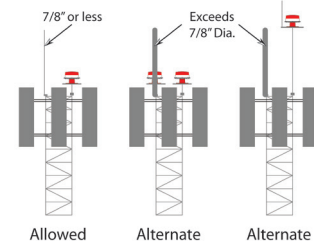
24

Months

## LOCATION (5.4.1.d)

3

Objects Larger than 7/8" diameter

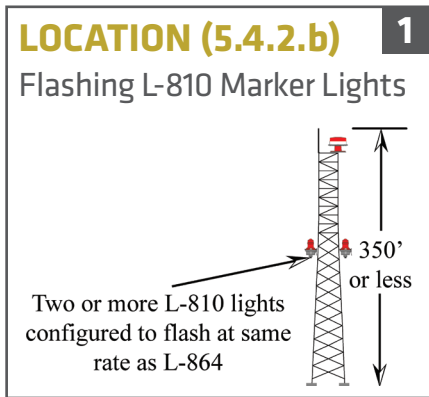
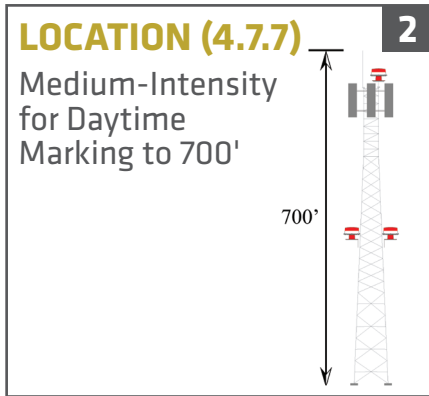


Allowed

Alternate

Alternate

**Diameter** — In the past, this was left up to the owner of the structure. The owner decided what constituted an unobstructed view of the light. In this new version, structures having an object larger than 7/8-inch in diameter are required to move the light above the object or add another light on the opposite side of the structure.



**2. Location (3.7.2) Medium-intensity for Daytime Marking**

—All previous versions required high-intensity lighting on towers over 500 feet (152 meters). This version makes the transition at 700 feet (213 meters).

**1. Location (5.4.2.b) Flashing L-810 Marker Lights**

—Marker lights for structures under 350 feet (107 meters) have always been required, but now these marker lights must flash in sync with the L-864 obstruction light at the top. Structures above 350 feet (107 meters) no longer require L-810 marker lighting. This is one of the most significant changes, and it comes out of the “TC-TN12-9 Evaluation of New Obstruction Lighting Techniques to Reduce Avian Fatalities” written by James

W. Patterson Jr. of the Aviation Research Division, Airport Technology Branch of the FAA.

This information highlights points on which tower owners should focus, but there are many other changes regarding wind turbines and catenary marking. If you have business in one of those other industries, it would be worth your while to download a copy of the circular and see the major overhaul to the marking of these structures. You can access a copy of the new advisory circular at [www.faa.gov/documentLibrary/media/Advisory\\_Circular/AC\\_70\\_7460-1L\\_.pdf](http://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_70_7460-1L_.pdf)

As an obstruction lighting professional, I hear these two questions every time a change to this advisory circular is made.

- Will I be grandfathered in?
- Do I have to upgrade to the current standard of marking?

The term “grandfathered in” does not exist within the FAA’s regulatory framework. The agency simply doesn’t issue determinations that grandfather a structure’s marking.

Plans for structures are filed, and a determination is issued prior to construction. An owner uses this determination to mark the structure. The FAA recommends you light the structure according to the determination you have on file. If you modify the structure’s lighting, a new determination is required. The new determination will reflect the latest marking standards. The answer to both of these questions is then no.

- No, you’re not grandfathered in to the new standard.

- No, you don’t have to update to the new standards as far as the FAA is concerned.

However, these are the wrong questions to be asking. As an owner of a structure requiring marking, you need to be asking this question.

- What are my liabilities if I don’t upgrade to the current marking standard?

This is a question only you and your attorney can answer.

I am sure this standard will have its critics, but for me it’s one of the best changes I have seen, and I have read them all several times.

I recall my first occasion to read an FAA advisory circular. It was not the most exciting read to say the least, but I learned a great deal. From AC No. 70/7460-1A published in January 1972 to the current standard AC No. 70/7460-1L, there have been some big improvements.

AC No. 70-7460-1K published in February 2007 made changes to the standard but maintained the overall appearance of the previous AC circulars. The new publication has broken the mold with its much-needed modernization of the physical layout and of the artwork in its Appendix 1. This publication is an all-around better circular — clearer and easier to read.

I am sure the Obstruction Evaluation Group of the FAA (AVJ-15) poured many hours into this revision and deserves a big pat on the back.

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