



ASSOCIATION OF

# FEDERAL COMMUNICATIONS CONSULTING ENGINEERS

WASHINGTON, D.C.

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

In the Matter of	)	
	)	
2004 and 2006 Biennial Regulatory Reviews - -	)	WT Docket No. 10-88
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	)	

**Comments of the  
Association of Federal Communications Consulting Engineers  
Washington D.C.**

The Association of Federal Communications Consulting Engineers (AFCCE), through its Rules & Standards Committee, presents its comments in the above captioned Rule Making Proceeding regarding Proposed Amendments to Part 17 of the Commission's Rules & Regulations. AFCCE is a professional organization composed of members who are registered/licensed professional engineers who render services to clients having matters under the purview of the Commission; the organization also is supported by Associate members who are in technical, legal and other supporting roles in the communications industry. AFCCE has participated in Commission proceedings for over 60 years and now submits the instant comments regarding the proposed changes to Part 17 (47CFR17).

**Marking & Lighting Specifications**

Under the Communications Act, the Commission has the authority to specify the marking and lighting requirements for antenna structures which come within its purview via facility licensing and



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regulatory provisions. The Commission also issues Construction Permits for such structures. The Federal Aviation Administration (FAA) does not have statutory authority to approve (or disapprove) such construction or the marking/lighting thereof. As a matter of practice and interagency agreement, the FCC has deferred to the recommendations of the FAA regarding construction (determination of Hazard or No Hazard to Air Navigation) as well as the marking and lighting of structures for which it issues a construction permit (usually in accordance with FAA Advisory Circular 70/7460-1, the current version of which is 70/7460-1-K).

In Paragraph 12 of the NPRM, the Commission seeks comments regarding changes to the marking/lighting requirements occasioned by changes to the FAA Advisory Circular. This is a matter akin to bringing the structural characteristics of an old tower up to the most up-to-date standards. There are thousands of towers that are more than 50 years old, constructed in accordance with the structural standards of the time, which have served and continue to serve if properly maintained. The industry practice is to leave unmodified those structures which do not meet current standards (“code”) provided that no significant changes which would increase tower loading are being proposed.

AFCCE proposes a similar approach to marking and lighting. For example, there are existing towers which have lighting systems constructed under FCC Form 715 requirements that do not comply with current FAA 74/7460-1 recommendations with respect to lighting; to modify these systems – which may have served their purpose for 50 years or more – could be an extremely expensive proposition for the owner with little or no enhanced safety benefit to the public<sup>1/</sup>.

In summary, AFCCE suggests that previously authorized lighting/marketing configurations be “grandfathered” unless clear and convincing public safety issues can be demonstrated to be mitigated by requiring a major upgrade as a result of changed FAA recommendations.

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<sup>1/</sup> In some cases, where the Commission’s mandate to register structures (which included a certification of coordinates, ground elevation and structure heights) triggered a corresponding requirement to notify the FAA of more accurate data on these parameters, the FAA, in turn, issued a “No Hazard” determination but incorporated AC 70/7460-1 references for lighting in the determinations (when the existing structure was already lighted per Form 715) and the FAA recommendation was incorporated in the ASR; this constituted a change, in effect, to the station’s license and a change which generally went unnoticed, placing the station in a technically non-compliant mode.



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With respect to issues raised in Paragraph 12 of the NPRM, AFCCE comments as follows: the special-case situations referred to will arise from time-to-time but clearly are unusual and infrequent. The Commission should retain the flexibility to deal with such cases at the request of the applicant or on its own motion (in consultation with the applicant). With the exception noted in the discussion above regarding pre-existing structures, the Commission should reference the most current version of FAA AC 70/7460-1 for any new construction.

## Accuracy of Location and Height Data

The FAA uses several levels of accuracy for describing proposed structures. These are more fully described in Appendix 3 of FAA handbook 8260.19D. Experience indicates that the most commonly used references are coded as Type 1A or 2C. A “1A” tolerance is  $\pm 20$  feet horizontally and 3 feet (1m) vertically and is basically the standard used in the most critical of applications. A “2C” tolerance, the most commonly used and assumed by the FAA, has an allowable variation up to 50 feet horizontally and 10 feet (3m) vertically. AFCCE suggests that for the FCC to apply an “across-the-board” 1 foot tolerance to vertical/elevation data as the trigger for re-study does not comport well with the FAA practice. AFCCE further suggests that the Commission further coordinate with the FAA on this issue with an outlook towards relaxing the 1 foot vertical tolerance requirement. AFCCE believes that the 1 second horizontal tolerance comports well with FAA practice.

Should the Commission and the FAA decide that the “1 second – 1 foot” requirement is appropriate, AFCCE believes that achieving these accuracies can only be accomplished through professionally conducted surveys. While readily available electronic equipment (e.g., WAAS enabled GPS) can achieve these accuracies, the equipment must be properly used and initialized. AFCCE suggests that such data used for FAA/FCC filing purposes should be taken under the supervision of a registered/licensed land surveyor or professional engineer. Of course, a traditionally performed “survey” by a professionally licensed surveyor would also be acceptable.



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## **Structures Requiring FAA Notifications**

AFCCE believes that there is no reason for the Commission to adopt/incorporate separate rules regarding structures that require notification to the FAA. AFCCE has observed that some Commission licensees notify the FAA for any proposed tower/structures; this practice may have its genesis in a concern (an abundance of caution) for compliance but results in many structures being “studied” by the FAA when, in-fact, notification was not required. Once “studied” by the FAA, the Commission’s current regulation/policies require that such a structure be registered under the ASR program (when, in-fact, such registration would not have been required). Typically, these are short structures under 200 feet AGL commonly used for cellular/PCS services. It is not known to what extent such unnecessary (under the current rules) filings tax the resources of the Commission and the FAA. While there are likely some administrative benefits to requiring registration of all structures which support a communications facility which come under the Commission’s licensing/approval purview, the current system essentially allows the applicant to determine whether the FAA needs to be notified and ultimately whether the structure is “registered” with the FCC. Other than delays due to FAA processing, the applicant may have no “downside” in filing all proposals with the FAA (notification by Form 7460-1) and subsequently registering them with the FCC whether required to do so or not.

## **Pending FAA Rulemaking**

AFCCE and some of its members/member firms filed extensive comments in the referenced FAA Rule Making proceeding, the scope of which exceeds that of the instant FCC NPRM. AFCCE believes, for example, that matters relating to radio frequency emissions from facilities authorized by the Commission – in particular, those authorized under Part 73 – should not be subject to any “approval” process by the FAA. However, with respect to evaluations of physical obstructions, the proper purview of the FAA, the notification and review process leading to a determination action regarding hazard must be harmonized between the two agencies.



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## **Inspection and Maintenance of Lighting**

Current FCC rules require licensees whose antenna structures have lighting requirements imposed to observe the condition of the lighting system at least every 24 hours. If discrepancies are noted that require notification to the FAA, such notification shall be made immediately upon observation of the condition. Likewise, if an automated monitoring system reports a lighting failure to the licensee's control point, the FAA states (AC 70/7460-1-K, Chg 2) that such failure "should be reported immediately...". Clearly, the 24-hour observation time frame and the requirement for "immediate" notification to the FAA can yield widely differing results as far as NOTAM issuance (timeliness) is concerned. For example, a routine tower lighting functionality observation, if made just before twilight on Sunday, with no reportable condition observed is followed minutes later by a system failure, it may go undetected for nearly 24 hours until Monday evening; use of an automated monitoring system might result in immediate observation of the problem and "immediate" notification to the FAA followed by timely issuance of a NOTAM. AFCCE recommends that the Commission consider requiring that registered structures within its purview install monitoring systems which would provide prompt notification of failures; any such rules should provide for granting of waivers when back-communication channels do not exist or are impractical to establish and/or where economic or other technical factors make establishment of the feature impractical. The Commission, in consultation with the FAA, should also develop language that gives more guidance for notification other than "immediately".

## **Maintenance of Painting**

AFCCE concurs with the Commission's proposal that the only reliable method of observing paint condition for proper marking is through the use of the Aviation Orange Tolerance Chart and urges the elimination of any other subjective methodologies.



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## Other Matters

Tower owners should be the relevant party responsible for maintaining tower marking and lighting as well as maintaining records and performing notifications to the FAA. Since such parties may not be Commission licensees and, therefore, not as readily accountable or subject to FCC enforcement activities, the Commission should retain some requirement that a tenant of the subject tower who is a Commission licensee who becomes aware of a deficiency that requires notification to the FAA and, further, has reason to believe that such notification has not been made by the owner has the burden of making a good-faith effort to see that proper notification is made as soon as possible.

AFCCE agrees with the Commission's proposal regarding tower owners' responsibilities to notify tenants of ASR information and copies of relevant form 854 filings via web-access. Of course, tenants have the option of requiring a different modality from the owner as part of leasing negotiations.

Respectfully submitted,

Association of Federal Communications  
Consulting Engineers

by

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John F.X. Browne, PE  
Chairman,  
Engineering Rules & Standards Committee  
July 20, 2010