Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
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Streamlining and Other Revisions of Parts 1 and 17 of the Commission's Rules Governing Construction, Marking and Lighting of Antenna Structures	)))))	WT Docket No. 10-88

To: The Commission

Comments of Hammett & Edison, Inc.

The firm of Hammett & Edison, Inc., Consulting Engineers, respectfully submits these comments in the above-captioned proceeding relating to the streamlining and updating of Parts 1 and 17 of the FCC rules regarding construction, marking and lighting of antenna structures. Hammett & Edison, Inc. is a professional service organization that provides consultation to commercial and governmental clients on communications, radio, television, and related engineering matters.

I. This FCC Rulemaking Should Be Suspended Pending Completion of the FAA Docket 2006-25002 Rulemaking

1. While the streamlining and updating of the Commission's Part 17 rules governing the construction, marking and lighting of antenna structures is a laudable goal, this FCC rulemaking is premature because it proposes a fundamental change in the metric that would be used by the FCC for determining whether a proposed antenna structure would be authorized. Whereas the current metric is one that involves the location and physical height of an antenna structure, and whether the structure would be a physical hazard to navigable airspace, the new metric would add the issue of electromagnetic interference (EMI) compatibility with FAA navigation aids that use radio frequency (RF) energy. Further, this EMI compatibility would not be based on the FCC rules, but rather on proposed new FAA rules, for which the text is not yet available.[1] Thus,

[1] We have been in communication with Ms. Ellen Crum of the FAA's Airspace and Rules Group, who is the FAA person handling the 2006-25002 rulemaking. Ms. Crum indicates that a Report and Order (R&O) cannot be publicly released until certain unspecified concerns by the Office of Management and Budget (OMB) have been resolved. On July 8, 2010, Ms. Crum confirmed that the FAA 2006-25002 R&O had not been released. Thus, there has been no opportunity for interested parties to review the FAA R&O or to assess its impact on broadcast and other FCC licensees, in the event the FCC were to modify its Part 17 rules to accept a new FAA policy of basing its tower approval not just on traditional location/height issues, but also on EMI issues.

this FCC rulemaking is premature and should be suspended until such time as a Report and R&O to the FAA rulemaking, FAA Docket Number 2006-25002, has been released. Further, in the event that one or more timely petitions for reconsideration of the FAA R&O are filed, the Commission should further hold up action until such time as those petition(s) have been resolved.

II. The Initial Regulatory Flexibility Analysis For the WT 10-88 Rulemaking Is Significantly Flawed

2. The Appendix B *Initial Regulatory Flexibility Analysis* (IRFA) to this rulemaking is significantly flawed. At paragraph 82 the IRFA identifies no federal rules that might duplicate, overlap, or conflict with the proposed rules. This statement is incorrect. Because the WT Docket 10-88 NPRM proposes to accept the FAA adding an EMI metric for determining whether it will issue a "no hazard" determination, there would likely be duplication and conflicts between the FCC and FAA rules; that is, while a R&O for the FAA rulemaking is not yet available, one can reasonably surmise from the earlier drafts of the FAA rulemaking that significant duplication and conflicts between the FCC and FAA rules would be created. Thus, the IRFA is fatally flawed, and a revised NPRM, this time correctly identifying these potential duplications and conflicts, is required if the Commission is to be in compliance with its obligations under the Regulatory Flexibility Act.

3. For example, under Section 73.1690(c)(1) of the FCC rules, an FM broadcast station with an omnidirectional transmitting antenna can substitute a different transmitting antenna without having to obtain prior permission from the FCC, so long as the effective radiated power (ERP) is not changed and so long as the center-of-radiation height is not changed by more than +2/-4 meters. However, under the proposed FAA rules, the licensee of an FM station that desired, for example, to change its transmitting antenna from an omnidirectional 4-bay antenna with no electrical beam tilt (ebt) to an omnidirectional 6-bay antenna with 1° of ebt, would first have to file with and receive permission from the FAA, since at some vertical angles the difference between elevation patterns would exceed 3 dB.

4. Other conflicts between the proposed new FAA EMI rules and the existing FCC rules would be Section 73.1615 of the FCC rules governing operation during modification of facilities, Section 73.1675 governing auxiliary antennas, and Section 73.1680 governing emergency antennas. FCC Rule Section 73.1680 is particularly important because it allows broadcast stations to quickly re-establish service to the public after a disaster.

5. H&E recognizes that the FAA has been given a mandate to protect its radio frequency navigation aids from harmful interference pursuant to the *Airport and Airway Safety and Capacity Expansion Act of 1987*. However, the issue of EMI compatibility has historically been the domain of the FCC, and clearly the FCC is the federal agency with superior expertise. Yet in the earlier, publicly available drafts of the proposed FAA rules, there was no requirement for the FAA to coordinate and harmonize its rules with the FCC rules. Also, there was no assurance that an FM or TV transmitter that complies with the FCC rules regarding spurious emissions would be deemed acceptable to the FAA,[2] or whether the FAA rulemaking would place new limits on the authorized main channel signal of an FM broadcast station.

6. Unfortunately, there have been prior instances of attempts by the FAA to enforce unreasonable EMI limits on broadcasters. In the early 1990s, the FAA adopted its Airspace Analysis Model (AAM) for predicting potential interference to aeronautical communications, and this model was used for determining whether a structure would or would not be approved, entirely separate from the structure's physical location and height; that is, entirely separate from the structure's physical impact on navigable air space. Unfortunately, the AAM was technically flawed and caused, for a long time, difficulties for FCC licensees (especially FM broadcast station licensees).[3,4] Because the AAM was used as a "go/no-go" benchmark, it was a

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[2] For example, we have sometimes had to comply with an FAA request to provide greater than the -60 dBc suppression required in the FCC Rules for analog TV signals because in performing its EMI analysis, the FAA assumed that a UHF TV station would generate a spurious signal in the 108-118 MHz aeronautical band that would be only 60 dB below the power of the UHF main signal, even though such a spurious signal would not be harmonically related to the fundamental signal, and indeed would be several hundred MHz *below* the fundamental frequency. With the advent of digital television (DTV) and its -110 dBc suppression requirement for out-of-band emissions (OOBE), the need to promise additional suppression for hypothetical interfering spurious signals has generally disappeared, at least for TV stations.

[3] See the H&E and Association of Federal Communications Commission Consulting Engineers (AFCCE) comments to WT Docket 01-289. Although the October 16, 2003, WT Docket 01-289 R&O adopted the International Civil Aviation Organization (ICAO) requirements for improved immunity from brute force overload (BFO) and reduced susceptibility for receiver-generated intermodulation products, those ICAO standards only apply to differential GPS aircraft radio receivers; see Section 87.151 of the FCC rules. We further note that ICAO adopted its minimum EMI immunity standard in 1985 (ICAO Convention, 61 Stat. 1180, T.I.A.S. No. 1591, Annex 10, v.1, ¶ ¶ 3.1.3, 3.1.8 (1985) (ICAO)), *twenty-six years ago*.

[4] For example, the AAM protected obsolete aircraft radios against BFO and receiver-induced intermodulation products from FM broadcast station signals based not on the BFO/intermodulation immunity of an ICAO compliant aircraft radio, but rather on older aircraft radios, far more prone to BFO/intermodulation interference. Indeed, as was documented in the H&E WT Docket 01-289 comments, between an ICAO-compliant aircraft radio and the worst-performing aircraft radios apparently still in use by private aviation, there is a 19 dB difference. Put another way, this is the difference between the AAM "passing" a 100 kW ERP FM station versus only allowing a 1.3 kW ERP FM station. We note that in July 14, 1993, PR Docket 93-199 Notice of Proposed Rulemaking (NPRM), the FCC proposed adoption of the ICAO aircraft radio receiver immunity standards for all aircraft radios, with the following proposed adoption schedule:

substantive rule, but unfortunately one created without complying with the FAA's obligations under the Administrative Procedures Act (APA) or RFA. Once completed, the still-in-progress FAA rulemaking will presumably solve the APA problem, but whether it will create an RFA problem, by adopting rules that would duplicate or conflict with FCC rules, will not be known until a copy of the FAA 2006-25002 R&O becomes publicly available.

7. We are especially concerned about proposed FAA rule section 77.9(e). This rule, if adopted, would require that notice be given to the FAA before any construction of a new fixed facility, or modification to an existing fixed facility, which supports transmitting in certain (and extensive) frequency bands. This rule, if present in the R&O as originally proposed, could become a prime example of an FAA rule that would conflict with an FCC rule.

Date	Requirement
January 1, 1994	All ILS and VOR receivers manufactured in or imported into the United States must meet ICAO standards.
January 1, 1995	All newly installed ILS and VOR receivers on board U.S. aircraft must meet ICAO standards.
January 1, 1998	All ILS and VOR receivers on board U.S. aircraft engaged in international flight must meet ICAO standards. Domestically, no aircraft may operate under Instrument Flight Rules unless ILS/VOR receivers meet ICAO standards.
January 1, 2005	All ILS and VOR receivers on board U.S. aircraft must meet ICAO standards.

Unfortunately, the PR Docket 93-199 rulemaking was terminated on January 11, 2002, without any action being taken.

III. Summary

8. The FCC WT Docket 10-88 rulemaking is premature, given that a R&O to the FAA Docket 2006-25002 has yet to be publicly released. The WT Docket 10-88 RFA claim that the proposed updating of the FCC Part 17 rules, which would hand over to the FAA EMI regulatory authority for a broad range of FCC-regulated stations, is patently and massively incorrect; there could hardly be a greater duplicative and conflicting set of FCC and FAA federal rules.

Respectfully submitted,

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