BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Amendment of the Commission's Rules to Provide Spectrum for the Operation of Medical Body Area Networks	)	ET Docket No. 08-59
	)	
	)	

To: The Commission

PETITION FOR RECONSIDERATION OF THE AMERICAN SOCIETY FOR HEALTHCARE ENGINEERING OF THE AMERICAN HOSPITAL ASSOCIATION

The American Society for Healthcare Engineering of the American Hospital Association ("ASHE"), pursuant to Section 1.429 of the rules of the Federal Communications Commission ("FCC" or "Commission"),[1] hereby submits this petition for reconsideration of a limited portion of the *First Report and Order* (the "R&O") in the above-captioned proceeding. In the R&O the FCC adopted new Part 95 rules to permit the development and use of Medical Body Area Network ("MBAN") devices operating on a secondary basis in the 2360-2400 MHz band shared in part with Aeronautical Mobile Telemetry ("AMT") users.[2] ASHE seeks reconsideration of the R&O, limited to the issue of whether the public interest will be better served by requiring all MBAN devices capable of transmitting in any portion of the 2360-2390 MHz band (the so-called

[1] 47 C.F.R. § 1.429.

[2] Amendment of the Commission Rules to Provide Spectrum for the Operation of Medical Body Area Networks, *First Report and Order and Further Notice of Proposed Rulemaking*, ET Docket No. 08-59, FCC 12-54 (released May 24, 2012) ("R&O"). The *First Report and Order* portion of the item was published in the Federal Register on September 11, 2012, 77 Fed. Reg. 55715.

"lower band" shared with AMT operations) to be registered with the MBAN coordinator prior to deployment and operation.[3]

I. INTRODUCTION

ASHE's parent organization, the American Hospital Association ("AHA"), has more than 5,000 member hospitals, health systems and other health care organizations and has 45,000 individual members. ASHE, established in 1956 as the first Personal Membership Group of the AHA, is a professional society with over 10,000 members, representing diverse professionals dedicated to continued improvement in the health care environment through advocacy, education, information and collaboration.

Both AHA and ASHE have been active participants in numerous FCC proceedings involving issues of patient health and safety. The AHA headed a task force of hospitals, including non-member hospitals, and equipment manufacturers to promote the allocation of dedicated spectrum for wireless medical telemetry. In response to the AHA task force's efforts, the Commission created the Wireless Medical Telemetry Service ("WMTS") in 2000.[4] Subsequently, ASHE applied to be designated, and in 2001 was selected, by the FCC's Wireless Telecommunications Bureau to act as the single database coordinator for WMTS.[5] Today, the ASHE database has registered 2,800 health care facilities with WMTS systems.

ASHE also has participated extensively in the instant proceeding by filing comments and participating in *ex parte* meetings. Among other things, ASHE has cooperated with the primary

[3] ASHE attaches its proposed rule changes in Appendix A

[4] Amendment of Parts 2 and 95 of the Commission's Rules to Create a Wireless Medical Telemetry Service, *Report and Order,* 15 FCC Rcd 11206 (2000).

[5] Amendment of Parts 2 and 95 of the Commission's Rules to Create a Wireless Medical Telemetry Service, *Order,* 16 FCC Rcd 4543 (2001).

proponents of the MBAN rules, Philips Healthcare and GE Health Care ("GEHC") and with AFTRCC, representing the AMT interests, to submit a "Joint Proposal"[6] to permit the secondary operation of MBAN devices in the portion of the 2360-2400 MHz band allocated to AMT. With its overriding concern to promote patient safety (and its intent to apply for designation as the MBAN frequency coordinator), ASHE has a significant interest in assuring that the MBAN coordinator has the information necessary both to protect AMT operations from harmful interference and to serve the health care community responsibly.

II. THE FCC SHOULD REQUIRE REGISTRATION OF ALL MBAN DEVICES CAPABLE OF OPERATING IN ANY PORTION OF THE 2360-2390 MHZ BAND

As discussed above, ASHE has acted as the WMTS database manager for more than a decade and has gained valuable experience in working with healthcare institutions that have FCC licenses. In its prior *ex parte* submissions in this docket, ASHE explained that few hospitals have an RF engineer on staff. The listed contact person for a healthcare facility in the WMTS database can be from a variety of different departments within a hospital, ranging from the CEO to the nursing or IT director to the purchasing department. Healthcare institutions often rely on equipment vendors for technical guidance and support and for information on FCC licensing and operational requirements. However, because ASHE is known for its leadership role in WMTS and engineering, ASHE often directly receives calls from hospitals regarding WMTS or other interference-related questions, even from hospitals that have not appropriately registered their WMTS equipment.

In their final submission of the Joint Proposal, the parties urged that the MBAN registration requirement be expanded to include those health care facilities that are classified as hospitals seeking to operate MBAN devices in the 2390-2400 MHz band (the so-called "upper

[6] *R&O* at ¶ 7.

band"). As the Commission noted in the R&O (citing information provided by ASHE in an *ex parte* meeting),

> ASHE . . . advocated for this requirement because 'hospitals treat patients with the most acute symptoms, they are the facilities that require the most protection from potential MBANS interference." ASHE further argues that registration of all hospital deployments of MBAN equipment "will provide the MBANS frequency coordinator with better information to serve the facilities that are treating patients with the most critical needs."[7]

However, in the R&O the FCC rejected ASHE's proposal, stating that "[e]ven if we were persuaded that a registration requirement in the upper band [2390-2400 MHz] would serve some useful purpose, we do not agree with ASHE that our rules should discriminate as to which facilities should be required to register."[8]

ASHE urges the FCC to reconsider its decision in part. ASHE understands and accepts that the FCC does not want to discriminate in its rules between hospitals and other health care facilities – and that the FCC does not want to burden with a registration requirement "consumer-grade" MBAN devices designed to operate exclusively in the upper band not currently being used for AMT operations. The Commission, however, can achieve significant public interest benefits if it requires registration of devices *capable of operating* in both the lower and upper MBAN frequency bands, even if the devices initially will not be deployed to operate in the lower band shared with AMT.

ASHE anticipates two broad categories of MBAN devices: 1) devices technically capable of operating only in the 2390-2400 MHz upper band not currently being used by AMT operations ("upper band equipment" or "upper band MBAN devices") and 2) devices technically capable of operating both in the 2390-2400 MHz upper band and in some or all portions of the

[7] *R&O* at ¶ 67.

[8] *Id.*

2360-2390 MHz lower band currently used for AMT operations ("full-band equipment" or "full-band MBAN devices").[9] ASHE urges the FCC to revise its rules to require the registration of all full-band MBAN devices before they can be deployed and operated – regardless whether the full-band MBAN devices will initially use the lower band or not. This would be an easy, bright-line test that equipment vendors and users can understand without needing to determine whether a prospective user fits the statutory definition of a hospital.

Requiring registration of all full-band equipment will serve multiple purposes that further the public interest. It is reasonable to expect that, because lower band operation is not permitted anywhere but in a health care facility that offers services, facilities and beds for use beyond a 24 hour period (§ 95.1203), and because full-band equipment will be more sophisticated than MBAN equipment designed solely to operate in the 2390-2400 MHz upper band, full-band equipment will be sold only to health care facilities.[10] The MBAN frequency coordinator should have access to information concerning those facilities that have full-band MBAN equipment capable of operating in the lower band spectrum to the extent that these lower bands may, in fact, be used in the future, even if not part of the initial deployment -- for example, when a health care facility's use of the upper band becomes sufficiently crowded that lower band use becomes essential to MBAN effectiveness. The impact of this cannot be overstated – in a situation where an AMT receive site experiences interference that can be attributed to MBAN operation, the AMT coordinator will contact the MBAN coordinator to resolve the interference complaint (§ 95.1225(b)(5)). If the potentially interfering MBAN operation is one where the lower band was

[9] No MBAN equipment will be designed solely for the 2360-2390 MHz lower band. In case of interference to AMT operations, MBAN devices operating in the lower band need to be able to default to the 2390-2400 MHz upper band.

[10] Thus, MBAN equipment designed for home use only will not be burdened with a registration requirement.

enabled as a result of an over-crowded upper band at a particular health care facility, the MBAN coordinator will need full information about all full-band MBAN devices operating in the facility (even if some are currently operating only in the upper band) in order to remedy the claimed interference while ensuring that patient safety is not adversely affected. Having all full-band MBAN operations registered in the database will ensure the MBAN coordinator can perform its duties effectively.

Moreover, the health care facilities that purchase the more sophisticated full-band MBAN equipment likely will be the facilities that treat patients with the most acute symptoms and likely will deploy multiple MBAN devices at the same location. These are the facilities that require the most protection from potential interference to MBAN operations – even from other MBAN systems. This suggestion is borne from ASHE's experience as the WMTS coordinator: indeed, one of the principal benefits of the WMTS registration requirement is to minimize potential interference among WMTS users by providing information to a health care facility that is considering a new WMTS installation about prior deployments of WMTS systems in the same geographic area. Requiring registration of all full-band MBAN equipment will allow the MBAN coordinator at least to make newer installations aware of the existence of other MBAN devices in close proximity, so that newer installations can be better engineered to avoid existing MBAN licensees in the area.

Moreover, in the event an authorized AMT user identifies interference from an MBAN system operating in the lower band such that the MBAN licensee would be required to migrate to the 2390-2400 MHz upper band, it will be useful for the MBAN coordinator to know whether a large concentration of MBAN devices operating in the upper band are located nearby and would be affected by the migration of another large batch of devices. Registration of all full-band

equipment will also allow both the MBAN coordinator and the FCC to protect registered MBAN operations from potential interference from broadcasters or other operators seeking special temporary authority ("STA") to operate in the 2360-2400 MHz band.

Finally, in the event the FCC ever considers reallocation of the 2390-2400 MHz band, it will be useful for the Commission to have information about the MBAN users with the most sophisticated equipment.

ASHE does not believe that requiring registration of devices *capable* of operating in the 2360-2390 MHz band will impede the development, or increase the costs, of MBAN devices which can only operate in the 2390-2400 MHz band – to the extent that the Commission anticipates that the latter devices may be developed for the home market or doctor offices. By limiting registration to the more sophisticated MBAN devices that can operate in both the upper and lower bands, ASHE's proposed rule modification will not require registration of consumer-grade devices capable of operating only in the 2390-2400 MHz upper band.

In conclusion, ASHE believes that there are significant public interest benefits to be gained by requiring registration with the MBAN coordinator of all devices that are capable of operation in any portion of the 2360-2390 MHz band, including those that are initially to be deployed only in the 2390-2400 MHz band. ASHE urges the FCC to adopt the proposed rule changes included in Attachment A to this petition.

Respectfully submitted,

/s/

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§ 95.1223 Registration and frequency coordination in the 2360-2390 MHz Band.

(a) (1) A health care facility must register all MBAN devices it proposes to deploy that are technically capable of operating ~~operate~~ in the 2360-2390 MHz band with a frequency coordinator designated under § 95.1225, whether or not the devices initially will be using any or all of that band. Registration is not required for any MBAN device that is not technically capable of operating in the 2360-2390 MHz band.

(2) Operation of ~~these~~ MBAN devices in the 2360-2390 MHz band is prohibited prior to the MBAN coordinator notifying the health care facility that registration and coordination (to the extent coordination is required under paragraph (c)), is complete. The registration must include the following information:

(1) Specific frequencies or frequency range(s) within the 2360-2390 MHz band to be used, and the capabilities of the MBAN equipment to use the 2390-2400 MHz band;

(2) Effective isotropic radiated power;

(3) Number of control transmitters in use at the health care facility as of the date of registration including manufacturer name(s) and model numbers and FCC identification number;

(4) Legal name of the health care facility;

(5) Location of control transmitters (*e.g.*, geographic coordinates, street address, building);

(6) Point of contact for the health care facility (*e.g.*, name, title, office, phone number, fax number, e-mail address); and

(7) In the event an MBAN has to cease operating in all or a portion of the 2360-2390 MHz band due to interference under § 95.1211 or changes in coordination under paragraph (c) of this rule section, a point of contact (including contractors) for the health care facility that is responsible for ensuring that this change is effected whenever it is required (*e.g.*, name, title, office, phone number, fax number, e-mail address). The health care facility also must state whether, in such cases, its MBAN operation is capable of defaulting to the 2390-2400 MHz band and that it is responsible for ceasing MBAN operations in the 2360-2390 MHz band or defaulting traffic to other hospital systems.

(b) A health care facility shall notify the frequency coordinator whenever an MBAN control transmitter in the 2360-2390 MHz band is permanently taken out of service, unless it is replaced with transmitter(s) using the same technical characteristics as those reported on the health care facility's registration. A health care facility shall keep the information contained in each registration current, shall notify the frequency coordinator of any material change to the MBAN's location or operating parameters, and is prohibited from operating the MBAN in the 2360-2390 MHz band under changed operating parameters until the frequency coordinator determines whether such changes require coordination with the AMT coordinator designated under § 87.305 of this chapter and, if so, the coordination required under paragraph (c) has been completed.

(c) Coordination procedures. The frequency coordinator will determine if an MBAN is within the line of sight of an AMT receive facility in the 2360-2390 MHz band and notify the health care facility when it may begin MBAN operations under the procedures below.

(1) If the MBAN is beyond the line of sight of an AMT receive facility, it may operate without prior coordination with the AMT coordinator, provided that the MBAN coordinator provides the AMT coordinator with the MBAN registration information and the AMT coordinator concurs that the MBAN is beyond the line of sight prior to the MBAN beginning operations in the band.

(2) If the MBAN is within line of sight of an AMT receive facility, the MBAN frequency coordinator shall achieve a mutually satisfactory coordination agreement with the AMT frequency coordinator prior to the MBAN beginning operations in the band. Such coordination agreement shall provide protection to AMT receive stations consistent with International Telecommunication Union (ITU) Recommendation ITU-R M.1459, "Protection criteria for telemetry systems in the aeronautical mobile service and mitigation techniques to facilitate sharing with geostationary broadcasting-satellite and mobile-satellite services in the frequency bands 1 452-1 525 and 2 310-2 360 MHz," adopted May 2000,

as adjusted using generally accepted engineering practices and standards that are mutually agreeable to both coordinators to take into account the local conditions and operating characteristics of the applicable AMT and MBAN facilities, and shall specify when the device shall limit its transmissions to segments of the 2360-2390 MHz band or shall cease operation in the band. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 C.F.R. part 51. Copies of the recommendation may be obtained from ITU, Place des Nations, 1211 Geneva 20, Switzerland, or online at <http://www.itu.int/en/publications/Pages/default.aspx>. Copies are available for inspection during normal business hours at the following locations: Federal Communications Commission, 445 12th Street, SW, Washington, DC 20554, or Office of the Federal Register, 800 North Capitol Street, N.W., Suite 700, Washington, DC. "Generally accepted engineering practices and standards" include, but are not limited to, engineering analyses and measurement data as well as limiting MBAN operations in the band by time or frequency.

(3) If an AMT operator plans to operate a receive site not previously analyzed by the MBAN coordinator to determine line of sight to an MBAN facility, the AMT operator shall consider using locations that are beyond the line of sight of a registered health care facility. If the AMT operator determines that non-line of sight locations are not practical for its purposes, the AMT coordinator shall notify the MBAN coordinator upon no less than 7 days' notice that the registered health care facility must cease MBAN operations in the 2360-2390 MHz band unless the parties can achieve a mutually satisfactory coordination agreement under paragraph (c)(2).