

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of:)
)
Utilities Telecom Council and Winchester)
Cator, LLC Petition for Rulemaking)
to Establish Rules Governing Critical) RM - 11429
Infrastructure Industry Fixed Service)
Operations in the 14.0–14.5 GHz Band)

To: The Commission

**COMMENTS OF THE NATIONAL
SPECTRUM MANAGEMENT ASSOCIATION**

The National Spectrum Management Association (“NSMA”),¹ hereby submits its comments in response to the Petition for Rulemaking in the above-captioned proceeding.² In the Petition, the UTC and Winchester Cator, LLC request the FCC to commence a proceeding to permit secondary use of the 14.0-14.5 GHz band for point-to-point and point-to-multipoint services for critical infrastructure industries (“CII”) via a single nationwide licensee/coordinator, and secondary non-commercial and commercial use of the band when not needed for CII applications. Because this request involves frequency coordination and spectrum management issues between satellite and terrestrial services, the NSMA has a particular interest in this proceeding. The NSMA provides the following comments to highlight certain issues that require

¹ NSMA is a voluntary association of individuals involved in the spectrum management profession. NSMA’s goal is to promote rational spectrum policy through consensus views formulated by representatives of diverse segments of the wireless communications industry. In May 2008, the NSMA changed its name from the National Spectrum Managers Association to the National Spectrum Management Association to better reflect its membership and activities.

² *In the Matter of Utilities Telecom Council and Winchester Cator, LLC Petition for Rulemaking to Establish Rules Governing Critical Infrastructure Industry Fixed Service Operations in the 14.0–14.5 GHz Band*, RM-11429, Petition for Rulemaking (filed May 6, 2008) (“Petition”).

additional clarification to better understand the potential spectrum management impact of the proposed operations.

I. DISCUSSION

The 14.0-14.5 GHz band is currently allocated to the Fixed-Satellite Service (“FSS”) on a primary basis for uplink (Earth-to-space) transmissions. The band is used extensively for very small aperture terminal (“VSAT”) transmissions and for a range of Ku-band mobile satellite services, including maritime earth stations onboard vessels (“ESVs”) and proposed vehicle-mounted earth stations (“VMESs”) operations on a primary basis, as well as Land-Mobile Satellite Service (“LMSS”) (*e.g.*, commercial OmniTRACS service and U.S. military Satcom-on-the-Move operations) and Aeronautical-Mobile Satellite Service (“AMSS”) (*e.g.*, broadband communications to U.S. government aircraft and other licensed commercial systems). The 14.0-14.2 GHz band is allocated to the Space Research Service (Earth-to-space) on a secondary basis; the 14.0-14.5 GHz band is used by NASA for its Tracking and Data Relay System (“TDRSS”); the 14.4-14.5 GHz band is allocated to the government for fixed and mobile use on a secondary basis; and by virtue of footnote US342, the Radio Astronomy Service (“RAS”) utilizes the band 14.47 – 14.5 GHz to conduct highly sensitive observations of distant cosmic sources at multiple sites throughout the United States.

The NSMA highlights a number of issues that require additional information beyond what was provided in the Petition in order to develop a more complete understanding of the potential sharing regime among incumbent operators and these new services.

First, the Petition states that a single licensee will be responsible for coordination of all CII operations, non-commercial and commercial point-to-point and point-to-multipoint fixed operations and temporary fixed uses of the band. Given that there are both primary and co-

secondary operators in the band, various coordination and frequency assignment approaches may need to be developed. The employment of coordination prescribed by the FCC per 47 C.F.R. § 101.103 and related rule provisions for satellite-terrestrial and terrestrial only networks should be considered, at least for operations with equivalent regulatory status. There is ample precedent for spectrum sharing among services and licensees using this process. However, additional regulatory procedures and sharing criteria may need to be developed that take into account the disparate regulatory status of CII services and other incumbent uses of the band.

In this connection, it is not clear what procedures are proposed to assure that other authorized users of the band are aware of the technical characteristics of CII networks, non-commercial and commercial installations. Primary and co-secondary users of the band would be unable to assess interference potential to their existing or planned systems and would not have the necessary information to evaluate and resolve cases of actual interference. Conversely, designers of CII, non-commercial and commercial systems must have access to information regarding incumbent deployment in the band to design links and networks that will be compatible with existing uses of the band.

Second, given the substantial cost of a point-to-point installation, on what bases would the single nationwide licensee/coordinator prioritize deployment and operation of CII networks over other new uses of the band or choose among more than one non-commercial or commercial entity that desires to use the band? Would CII requirements trump those of non-CII users in cases where this would require disruption of an incumbent non-CII user with equivalent regulatory status? Further, what policies would apply if the CII licensee/coordinator sought to permit spectrum use that might disrupt non-CII users with superior regulatory status? It is also not clear how the CII licensee/coordinator and commercial operators in the band would protect

RAS operations from detrimental interference in the 14.47 – 14.5 GHz band segment and NASA TDRSS operations from interference in other segments of the 14.0-14.5 GHz band. Despite any potential claim of equivalent regulatory status, these critical U.S. Government operations have traditionally been protected by all other users of the Ku-band. Approximately 17 radio telescopes, spread throughout the country, use this band for observing celestial sources. NASA operates TDRSS Earth stations at White Sands, New Mexico, and at Guam, and is building an additional TDRSS Earth station at Blossom Point, Maryland. All of these existing facilities, plus any future facilities, need protections from services operating in the 14.0 – 14.5 GHz band.

If new secondary networks are established in the band (particularly the robust and therefore more expensive CII facilities described by UTC in its petition), the implications to existing and proposed primary operations are unclear. In an analogous circumstance, the plethora of unlicensed receive-only earth stations in the 4 GHz band has rendered that spectrum virtually unusable for licensed terrestrial point-to-point stations. It would seem that licensed CII networks, even though technically secondary, would create a much greater challenge to regulators charged with managing spectrum in the public interest. A “secondary” regulatory classification for “critical infrastructure industries”/“public safety” use would seem to be in conflict with the proposed use of the spectrum -- particularly if such services were permitted to disrupt primary operations in the band. Also, does the proposed definition for “CII” appropriately cover all reasonable CII uses, and how does a coordinator ascertain which proposed CII uses are reasonable? It seems that some critical infrastructure facilities may fall outside the proposed definition.

Third, the petition describes a temporary setup wherein a communications “cloud” is established in a disaster area and stations may establish high-capacity communications links by pointing antennas at the cloud. An explanation of how such an arrangement would work would be helpful. In addition, in the scenario described by UTC, where a concentration of temporary facilities are brought into an area, how would the CII licensee/coordinator take into account potential disruption of incumbent communications networks that also may be serving the affected area and may already be carrying critical communications? Has “feasibility testing” been performed to demonstrate the viability of this type of service particularly in view of the large number of incumbent VSAT stations in the band whose locations are uncharted in the public domain?

Finally, on what basis would the Commission select the single nationwide CII licensee/coordinator if more than one entity sought to perform such function? In the circumstances of this proposal, the NSMA agrees that selection by auction would not appear to be appropriate. That said, developing appropriate selection criteria and processes will be essential to managing the spectrum shared by incumbent users and proposed new services in the public interest.

II. CONCLUSION

To the extent that the Commission moves forward with this rulemaking, it should include the foregoing spectrum management issues and related considerations in any future notice of proposed rulemaking.

Respectfully submitted,

**NATIONAL SPECTRUM MANAGEMENT
ASSOCIATION**

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