

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

In the Matter of:

Implementation of Sections 309(j) and 337 of)	
The Communications Act of 1934 as Amended;)	WT Docket No. 99-87
Promotion of Spectrum Efficient Technologies)	
On Certain Part 90 Frequencies.)	

**REQUEST FOR TIME EXTENSION OF WAIVER OF COMMISSION RULES
REGARDING THE SPECTRAL EFFICIENCY OF PRIVATE LAND MOBILE
RADIO SERVICES IN THE 150-174 AND 450-470 MHZ BANDS, REQUIRING
12.5 KHZ CHANNEL BANDWIDTH OR EQUIVALENT TECHNOLOGY BY
JANUARY 1, 2013**

WAIVER—EXPEDITED ACTION REQUESTED

I. Introduction

The County of Augusta, Virginia ("County") respectfully requests a TIME EXTENSION of the waiver of the January 1, 2013 narrowband deadline presently expiring on January 1, 2015, for an additional period, until December 31, 2015.

Respectfully submitted,

December 17, 2014

/s/ Patrick J. Coffield

County Administrator
County of Augusta
18 Government Center Lane, P.O. Box 590
Verona, Virginia 24482

II. Background

The County is situated with radio transmitting sites within the defined Quiet Zone (QZ)¹. This presents an extremely challenging radio frequency environment for effective wireless communications. The County's communications system supports public safety activities for police, fire and emergency medical communications.

The County public safety radio system supporting first responders was operating successfully in a wide band (20 kHz occupied bandwidth) mode. The Commission compelled the County to relicense the existing public safety radio system in a narrowband (11.25 kHz occupied bandwidth) mode. The County did not initiate this relicensing on a voluntary basis, as no changes were proposed to the system other than adding a narrowband emission.

The narrow banding of the radio license authorizations caused the National Radio Astronomy Observatory (NRAO) to revoke previous approvals and apply severe restrictions to the signal density levels. The change in dERP at one site was reduced from 212 Watts dERP to 1.5 Watts dERP, with no physical change in the transmitter parameters other than a reduction in bandwidth and with no definite indication that the previous dERP was actually exceeding the DISH threshold. This change in directional effective radiated power (dERP) forced the County to re-configure the system adding additional sites in order to recover lost coverage in the jurisdictional area required for public safety operations of the County. The lost coverage was not a result of narrowbanding the transmitted signal, but was a direct result of the NRAO vacating a previous dERP approval that was based upon actual field testing and substituting a significantly reduced

¹ 47 CFR § 1.924(a) Quiet Zones - intended to minimize possible interference at the National Radio Astronomy Observatory site located at Green Bank, Pocahontas County, West Virginia, and at the Naval Radio Research Observatory site at Sugar Grove, Pendleton County, West Virginia.

dERP based upon less reliable propagation modeling. The loss of coverage was significant and would impact the safety of first responders and the citizens they serve. The required additional infrastructure required site development, equipment purchase, and backhaul systems, all of which resulted from the Commission requirement that the County obtain a narrowband license.

The County will show that inflexible enforcement of the January 1, 2015 WAIVER deadline with respect to the spectrum described in this petition would be contrary to the public interest of ensuring the safety and well-being of County residents, businesses, and visitors; and in addition compromise the safety and efficiency of the public safety emergency responders. Thus, the County seeks this extension of time of the narrowbanding deadline in the manner described

The County seeks a time extension of the granted WAIVER for specific call signs (see Appendix A) for operations that will continue on lower spectrum bands and will be taken to compliance by the end of the extended WAIVER period. This list includes call signs and frequencies that are both directly and indirectly impacted by NRAO determinations. Appendix B lists the directly impacted licenses, showing the pre and post narrowband ERP limits.

III. Steps Taken by County Agencies to Comply with the Narrowbanding WAIVER

The County operations will continue on frequencies in the 450-470 MHz range. These lower frequency systems will be taken into compliance with narrowband in the new projected time frame of December 31, 2015.

The County expected that conversion from wideband analog to narrowband analog would be a relatively inexpensive and speedy process. Sufficient funding was set aside to transition

compatible hardware from wideband to narrowband through reprogramming of the transmitters and receivers. Funding was also anticipated and secured to replace subscriber units where the age of the unit did not allow for narrowband analog operation. Sufficient time was provided to allow for the reconfiguration of the County systems.

The first step in the process was to add narrowband analog emission to the County licenses.

These licenses have been processed and approved by the Commission. The next step would have been to commence system conversion to meet the required cut-over time. Unfortunately this is where the process stalled.

IV. Specificity of Transition Delay beyond the existing WAIVER

The County has begun a process of defining the location of additional transmitters to provide coverage to the area lost to the NRAO restrictions. This is a complicated process that involves the following considerations:

1. Identifying possible transmitter sites.

The County has been developing plans to acquire and implement their own microwave infrastructure. It is anticipated that the County will acquire and install the new microwave equipment through use of cooperative procurement via an existing contract between another Virginia political subdivision and Motorola/Ceragon. The County has utilized this procurement process to have field path surveys performed by Ceragon to evaluate these paths as well as a number of path options associated with this project. The paths surveyed were identified based on preliminary paper path evaluations and analysis that had been performed during the past year. The County is waiting for the results of these surveys to help determine next steps forward. These paths were some of the many that

had been considered from the identification of a number of potential transmitter sites. A number of potential transmitter sites have been identified but had to be eliminated due to microwave survey results.

During the WAIVER time period the County developed and issued an RFP for a commercial tower company to construct a new tower on one of several locations that was identified as a result of thorough coverage prediction and field path microwave analysis processes in Deerfield Valley. From all analysis performed it was determined that only one of the sites could provide for the necessary microwave antenna centerline installations on each end for establishment of a reliable path. As a result of the procurement process (February 2013) the County selected GTP and executed a contract (July 2013) with them to build a new 300' tower in Deerfield Valley. Completion of the tower and final site inspection was not obtained until May. The extended duration for construction of this site was impacted by several factors including NEPA, DHR106 and SHPO processes, and difficult harsh 2013-2014 winter conditions.

All land mobile transmitter equipment and antennas have been purchased and installed at the new Deerfield Valley site. The County issued a purchase order to Motorola/Ceragon in June of this year for microwave equipment. Installation of the microwave equipment at the Deerfield Valley site is tentatively scheduled to begin the week of December 15th, 2014. Once the microwave radio equipment and antennas are installed the Deerfield Valley site can function as a simulcast site in the County system and fill the coverage void that will be created once the transmit antenna is replaced on Elliotts Knob to comply

with the NRAO special conditions imposed on the County's operating parameters for this site.

Another location the County has been evaluating to address a coverage deficiency is in the Middlebrook area. The plan is to add a transmitter site and link this site to the County's simulcast system through the County's site at Elliotts Knob. As part of this process the County evaluated four existing tower sites, all of which failed to produce a viable transmitter location. As a result, the County has been in the process of exploring a different site options in the same area; and a potential site has been identified. However, this site will still require acquisition for development and construction of a new tower. Although the site appears to be a good viable option, additional work is required to finalize the location including obtaining an FCC Structure Registration.

2. Requesting NRAO review of the candidate sites.

All NRAO reviews and licensing for LMR and Microwave operation have been completed and obtained for the Deerfield Valley site. Other site reviews will need to be undertaken on a case by case basis or need as this project proceeds forward. Upon favorable NRAO review, determine if the site currently has a sufficient antenna structure. This has been completed for the new Deerfield Valley. This action will need to be handled as additional new site action is undertaken.

3. Apply for FCC Antenna Registration for new or modified construction

This has been performed for the new Deerfield Valley tower. This action will need to be handled as additional new site action is undertaken.

4. Comply with the new FCC antenna registration regulations for Environmental Compliance, including 30 day public notice.

This has been completed for the new Deerfield Valley tower. This action will need to be handled as additional new site action is undertaken.

5. Address public concerns and wait for the FCC to rule on the site approval.

This has been completed for the new Deerfield Valley tower site licensing issued. This action will need to be handled as additional new site action is undertaken.

6. Construct or modify the antenna structure

This has been performed for the new Deerfield Valley tower. This action is pending for other towers/sites under consideration/referenced above.

7. Determine backhaul requirements.

This has been completed for the new Deerfield Valley tower, but final path evaluations are still underway for other tower sites as referenced above. Once the additional path evaluations are complete remaining backhaul requirements can be finalized.

8. Purchase and install transmitters.

This has been completed for the new Deerfield Valley tower site as well as all of the other existing County LMR sites to provide for compatibility of transmitter/base station equipment for simulcast operation. When the Middlebrook/Troxell Gap Rd. site is added this same approach will be taken with transmitter/base station equipment installation.

VI. CONCLUSION

As shown above, the County has worked diligently and in good faith to meet the Commission's narrowbanding WAIVER, without risking the safety of the public or the safety and efficiency of the emergency responders. The exhaustive process of conforming to revised NRAO spectral density limits, while still maintaining current systems at the highest performance levels, will cause a significant delay in narrow banding.

For the reasons stated and in consideration of the public safety issues involved; and the impact that NRAO has had on County planning, the Commission is PETITIONED to grant a TIME EXTENSION to the waiver of NARROWBAND compliance to DECEMBER 31, 2015.

APPENDIX A

LIST OF FCC RADIO AUTHORIZATIONS GRANTED TO THE COUNTY OF AUGUSTA,
VA FOR WHICH WAIVER OF THE JANUARY 1, 2013 NARROWBAND OPERATION
DEADLINE IS REQUESTED

callsign	FRN	Freq	class	Serv
KDA670	0002036044	451.0250	FB2	PW
KDA670	0002036044	451.0750	FB2	PW
KDA670	0002036044	456.0250	MO	PW
KDA670	0002036044	456.0750	MO	PW
KNFY393	0002036044	460.4000	FB2	PW
KNFY393	0002036044	465.0750	MO	PW
KNFY393	0002036044	465.4000	MO	PW
WNMW815	0002036044	453.7500	FB2	PW
WNMW815	0002036044	453.9250	FB2	PW
WNMW815	0002036044	458.7500	MO	PW
WNMW815	0002036044	458.9250	MO	PW
WPHE291	0002036044	458.3000	MO	PW
WPHE291	0002036044	460.3000	FB2	PW
WPHE291	0002036044	465.3000	MO	PW
WPKQ976	0002036044	460.5500	FB2	PW
WPKQ976	0002036044	465.5500	MO	PW
WPPC506	0002036044	456.0250	FX	PW
WPPC506	0002036044	458.0750	FX	PW
WPPC506	0002036044	458.9250	FX	PW

WPPC506	0002036044	458.7500	FX	PW
WZM674	0002036044	462.9500	FB2	PW/PM
WZM674	0002036044	462.9750	FB2	PW/PM
WZM674	0002036044	463.0000	FB2	PW/PM
WZM674	0002036044	463.0250	FB2	PW/PM
WZM674	0002036044	463.0500	FB2	PW/PM
WZM674	0002036044	463.0750	FB2	PW/PM
WZM674	0002036044	463.1000	FB2	PW/PM
WZM674	0002036044	463.1250	FB2	PW/PM
WZM674	0002036044	463.1500	FB2	PW/PM
WZM674	0002036044	463.1750	FB2	PW/PM
WZM674	0002036044	467.9500	MO	PW/PM
WZM674	0002036044	467.9750	MO	PW/PM
WZM674	0002036044	468.0000	MO	PW/PM
WZM674	0002036044	468.0250	MO	PW/PM
WZM674	0002036044	468.0500	MO	PW/PM
WZM674	0002036044	468.0750	MO	PW/PM
WZM674	0002036044	468.1000	MO	PW/PM
WZM674	0002036044	468.1250	MO	PW/PM
WZM674	0002036044	468.1500	MO	PW/PM
WZM674	0002036044	468.1750	MO	PW/PM
WPLX499	0005517081	458.7500	FX	PW
WPLX500	0005517081	458.7500	FX	PW
WPLX501	0005517081	458.7500	FX	PW

WPLX523	0005517081	465.5500	FX	PW
WPLX524	0005517081	460.5500	FB	PW
WPLZ932	0005517081	460.5500	FB	PW
WPLZ935	0005517081	460.5500	FB	PW
WPLZ935	0005517081	465.5500	FX	PW
WPZR590	0007189301	451.2500	FBT	IG

APPENDIX B - LICENSES DIRECTLY IMPACTED BY NRAO ERP LIMITS SHOWING PRE AND POST NARROWBAND LIMITS.

Call Sign		Location	NRAO dERP Pre NB (W)	NRAO dERP Post NB (W)
WNMW815		1	212	1.5
WNMW815		3	25	1.4
WPHE291		1	212	1.5
WPHE291		3	25	1.4
WPKQ976		1	212	1.6
WPKQ976		3	25	1.4
KDA670		1	212	1.5
KDA670		3	25	1.4
KNFY393		1	212	1.5
KNFY393		3	128	1.4
WZM674		1	212	4.2
WZM674		3	25	25