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

In the Matter of)
)
Amendment of the Commission’s Rules with) GN Docket No. 12-354
Regard to Commercial Operations in the 3550-)
3650 MHz Band)

COMMENTS OF IBERDROLA USA NETWORKS

Iberdrola USA provides renewable and thermal electricity generation; electricity transmission and distribution; natural gas storage and distribution; and renewable energy operations and energy services in 24 states for New England to the West Coast.

The Iberdrola USA Network companies of: **New York State Electric and Gas Corporation (NYSEG)**, serves 881,000 electricity customers and 263,000 natural gas customers across more than 40% of Upstate New York.

Rochester Gas and Electric Corporation (RG&E), serves 371,000 electricity customers and 307,000 natural gas customers in a nine county region centered in Rochester NY.

Central Maine Power Company (CMP), delivers electricity to more than 600,000 in central and southern Maine.

Maine Natural Gas (MNG), delivers gas to 4000 residential, commercial, and institutional customers in several Maine Communities.

INTRODUCTION

1. On December 12, 2012 the Commission issued a Notice of Proposed Rulemaking (“NPRM”), under GT Docket 12-354, proposing the creation of a new Citizens Broadband Service (“CBS”) sharing the 3550-3650 MHz band with incumbent users, with a supplementary proposal to incorporate the 3650-3700 MHz band under the new regulatory regime. On April 23, 2014 the Commission issued a Further Notice of Proposed Rulemaking (“FNRPM”), under GT Docket 12-354.

2. Iberdrola USA (IUSA) believes service capabilities as currently realized in the existing 3650MHz-3700MHz band are essential and critical to serve the best interest of the public in a reliable, secure and spectrally efficient manner throughout the next decade.
3. IUSA considers the 3650-3700 MHz band an important spectrum option for Smart Grid networks. As the Commission is well aware there are very few suitable spectrum options readily available to utilities for the implementation of Smart Grid networks in compliance with Title XIII of the Energy Independence and Security Act of 2007 (EISA). The current rules and policies in place for the 3650-3700 MHz band are not optimal but nevertheless, this band represents one of the few spectrum options available for deploying a Wide Area Network in support of our Smart Grid initiative. Iberdrola USA holds a 3650-3670 license – WQSG754 granted September 18, 2013.

With 84 subscriber location registrations and an additional 60 + subscriber registrations pending for 2014 in the RG&E Operating company. Many of these additional registrations require further detailed engineering for compliance to the US Canadian agreement.

Our operating company NYSEG is currently on hold waiting for the remaining concurrences to be finalized between existing incumbent FSS Earth Stations where Iberdrola operations will co-exist within the 150 km protection zones. To date IUSA has prepared detailed engineering reports, and in conjunction with ComSearch have prepared a detailed interference analysis and reports were presented to all incumbents for consideration. Recently our first notice of consent been received by Rueters America call sign E950436.

CMP is currently utilizing unlicensed spectrum in 2.4, and 5.8GHz band to support AMI and smart grid operations. Although initially attractive, these systems have been experiencing an increase in spectral congestion, and limited range capability, limited flexibility. Future use case considerations are being explored for lifecycle replacement of this equipment with 3.65-3.700MHz capable equipment.

Overall the 3.65-3.700 MHz band offers the uniqueness for the IUSA infrastructure to apply a diverse array of interoperable, interchangeable contention based equipment to maintain reliability, stability, and security. These operations include capabilities for many of our required essential daily internal service offerings, and the need for technology enhancements during disaster recovery operations.

4. We applaud the Commission's efforts to improve the overall efficiency of usage within the spectrum band 3550-3650 MHz by means of the two techniques; small cells and spectrum sharing managed by the Spectrum Access System ("SAS"). We also see considerable merit in the two tier approach for the awarding of licenses; Priority Access Licenses ("PAL") and General Authorized Access ("GAA") licenses.

Our comments in response to the FNPRM are based on our evaluation of the proposed rules and policies for the CBRS and how these proposals would impact our continued ability to deploy a secure and reliable Smart Grid network segment in the 3650-3700 MHz band if the same rules were extended to cover the 3650-3700 MHz band.

Our thoughtful review has raised several concerns about the conditions under which the 3650-3700 MHz band would be included (¶163) within the CBRS regulatory regime.

These concerns force us to conclude that it would not be in our best interest to recommend the inclusion of the 3650-3700 MHz band in CBRS regulatory regime. Our concerns are summarized in the following paragraphs.

RESPONSE TO FNPRM

5. **Proposed rules and concepts are untested:** The need to promote innovation and spectrum sharing is significant. However, IUSA feels that the commission must consider a non-impact approach to existing operations in the 3650-3700MHz operations by maintaining a separation of the spectrum for the 3550-3650MHz innovations and uses. The proposed rules and concepts, as revolutionary as they are, must prohibit harmful interference or operational impacts to existing licensees. IUSA feels that

by maintaining this separation the full potential for innovation, (policy and technology), combined with spectrum sharing will still be realized.

These methodologies and technologies will be provided an even more unique opportunity to mature and flourish, creating a foundation for future innovations and policies to be more readily realized.

6. Five-Year ‘grandfather’ period (§166):

IUSA believes that the proposed five year “Grandfather Period” is inappropriate. IUSA believes a typical network planning undertaking is a 24 month period before a production network could be fully realized from start to finish.

Many efforts come into play between conception to realization of a network design and build. From IUSA’s experience over the past 18 months for: budgeting, licensing, equipment qualifications, lab testing, infrastructure build (backhaul and vertical), network design, compliance investigations, interference mitigations, coordination efforts, equipment procurement, historical data gathering and performance reviews, just to name a few come to play in a deployment for a operational network utilizing the existing 3650-3700MHz spectrum.

For licensees a significant investment has already been made. A five year grandfather clause would require them to abandon reliability investments prematurely and put the public and reliability of infrastructure systems significantly at risk. A five year grandfather clause would significantly impact any licensee negatively. IUSA feels that the commission must avoid any grandfather clauses and allow for continued operation as is in the 3650 – 3700MHz band. Any hardware or firmware upgrade requirements to bring devices to CBRS operational specifications surely will have a significant cost impact to any project. Existing utility automation equipment is planned for a 20 year plus lifecycle, Wireless communication equipment to support these devices has a MTBF of 40+ years, this figure has been quantified by multiple manufacturers over long term actual product field return data evaluations. The typical RF hardware has no internal moving parts and is contained in a ruggedized

housing. Similar Land Mobile Radio RF equipment has been in place throughout IUSA operating companies for 20+ years of continued reliable operations.

7. Competitive bidding for PALs puts utilities at a disadvantage (§118,119,120):

If the Spectrum is auctioned the utilities will be at a huge disadvantage to support the reliability of their grid automation efforts and the public will be put at risk until additional spectrum is allotted to serve the needs currently being served by the existing 3650-3700 MHz band. Utilities use of spectrum does not generate direct revenue. The spectrum is used for many essential services increasing reliability, monitoring and control, operations and maintenance support, and security of the grid infrastructure.

IUSA would like to note that as a direct result of a similar auction effort at 220 MHz, IUSA's investigations into the cost of leasing the spectrum from the license holder(s), so severely impacted the budget that the spectrum was deemed unusable for automation needs across all OPGO's (NYSEG, RGE, CMP). The area of operations available under the licenses were not congruent with our operating territories and divisional areas. Because of this lack of congruency even more additional spectrum procurement was required for operational needs that would have led to large areas of spectral inefficiencies, and large areas of operations being underserved.

8. One-Year license term is too short (§49):

For a 20 plus year investment, this leads to unnecessary administrative costs by the licensee's.

A renewable 7-10 year license term is acceptable.

9. Geographic area for PALs (§44):

IUSA does not support the use of licensing by census tracts. A utility can have distribution and transmission assets that transverse across a wide diversity of population densities and multiple slices of different census tracts. These distribution and transmission assets are exposed to many potential elements of harm and localized events. Automation devices being monitored could support one user or several hundred thousand users. IUSA recommends that the commission use a fixed point / radius method for

defining a geographical area of operation of no greater than a 32 km (20) mile radius. A technological evaluations method should be defined to support radius border interference limits and operational restrictions. IUSA recommends that the SAS require input of parameters for a fixed point radius license application for proposed system type(s) with operational parameters, transmitter antenna and pattern type(s), height AGL, EIRP, and justification of service area radius by means of a technical demonstration of the signal at the edge of the radius contour. The SAS should also capture characteristics of receivers for remote units that will be integrated into the system. The system should be useful in bordering network planning.

10. Rules for small cells incompatible with Smart Grid (§70-76):

Small Cell applications must not contribute spectral interference towards smart grid or other incumbent communication devices. Careful review of the proposed exclusion zones and the technical parameters for the technology certified for operation within any exclusion zones should be given utmost priority consideration. The exclusion zones as proposed would severely impact a build out using both spectral bands. The 3550-3650MHz CBRS spectrum should be used to support small cell operation. The potential to increase the maximum transmit power levels, use of a guard band should be required for nearby utility operations and incumbent operations. A common technical evaluation should be developed to insure compliance and be available for pre-licensing determinations by the SAS.

11. 'Contained Access' is restricted to indoor only (§58-60):

IUSA believes that a PAL or GAA licensees should provide concurrence for contained access use based on developed technical requirements and standards. Restrictions should be limited to indoor only facilities, but outdoor operation extensions should be limited to not exceeding more than 500' around serving parcel. IUSA recommends contained access users licenses should have an annual renewal period.

12. Few alternative spectrum options for Smart Grid:

There are very few spectral options available for utility use which addresses essential wireless broadband applications needed for day-to-day network operations, as well as disaster recovery events.

IUSA has planned for WiMAX delivery capabilities for the 50 MHz of spectrum available in the 3650-3700MHz band. IUSA plans to deliver reliable and secure wireless communications to support gas and electric service delivery, grid automation efforts, physical and network security, and storm restoration of networks (transmission and distribution). These efforts will greatly enhance reliability and provide for faster recovery efforts during outage situations. These efforts will help lower energy costs to customers.

13. Geographical challenges for IUSA Networks

IUSA operating companies are in a challenging geographical area. RG&E, CMP, and NYSEG operating companies border Canada. NYSEG divisions are largely encompassed within FSS exclusion zones. IUSA strongly recommends further review of exclusion zones and development of acceptable operational parameters and analysis methods such as a high point analysis, use of directional antenna's, AGL /ERP limitations to determine if new operations can equally coexist with existing incumbent operations. A large number of our fixed stations are planned for heights 60' or less. Even at 60' there is safety and obstruction challenges to utilizing distribution or transmission infrastructure. Spectral power limitations should be considered and IUSA supports SAS assignment based on flexible rules for license tier priority, area of operation, and geographical restriction considerations.

SUMMARY

14. Although IUSA sees many merits in the proposed rulemaking we have serious reservations about the applicability of many of these rules in our efforts to deploy networks to meet our goals for a complete end-to-end Smart Grid network. The existing rules and policies for the 3650-3700 MHz band are quite suitable for our purposes. On the other hand, it is our view that the rules and policies being considered for the CBRS regime if extended to the 3650-3700 MHz band would be detrimental to our efforts to use this spectrum for our Smart Grid network. We strongly urge the Commission to consider the above comments in making a final determination for the 3650-3700 MHz band. The implementation of a nation-wide Smart Grid network has the potential for significant public benefit leading to improved energy efficiency, operational efficiencies leading to lower utility costs,

improved grid reliability and security, and faster disaster recovery. The Commission can play a key role by implementing a Smart Grid friendly regulatory environment.

Respectfully submitted,

Peter Stritzinger

Iberdrola USA July 14, 2014