

**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)	

**REPLY COMMENTS OF THE UTILITIES TELECOM COUNCIL AND THE EDISON
ELECTRIC INSTITUTE**

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SUMMARY

The Commission should not adopt its proposal to merge the 3.5 GHz band with the 3.65 GHz band. This proposal would significantly and negatively affect utility communications system in the 3.65 GHz band by reducing performance and imposing unnecessary costs, which would also undermine national purposes of encouraging cleaner energy which relies upon a smarter grid. In addition, this would strand significant investments that utilities have made in the band, and it would set a precedent that would chill future investments in this band, as well as others. A five year transition period will be insufficient for utilities to recover their investments, because utilities have extended depreciation cycles and the useful life of the equipment is far longer than five years.

The 3.65 GHz band is a success story, and the Commission should not jeopardize that success by merging it with the 3.5 GHz band and using the Part 96 Rules. The Part 96 Rules are intended for the 3.5 GHz band to be used as a “sandbox” for small cell systems and spectrum sharing that would be controlled by a still untested spectrum access system database – not for the high-power, contention based protocol systems that exist at 3.65 GHz. The potential for congestion and interference from PAL and GAA operations to incumbent systems in the 3.65 GHz band and to adjacent C-band operations is high. Interference from PAL and GAA operations would threaten the reliability of utility and CII systems, and overriding national public policy objectives for smart grid, homeland security, and public safety, as well. Therefore, the Commission should not adopt its proposals to merge the 3.65 GHz band with the 3.5 GHz band and adopt the Part 96 Rules in the 3.65 GHz band; and if it does adopt its proposals, the Commission should grandfather incumbents indefinitely from the Part 96 rules, protect them

from PAL and GAA interference, and allow them to expand coverage and capacity of existing systems.

Utilities need access to spectrum to increase capacity and coverage for smart grid another other applications, and they are interested in accessing the 3.5 GHz band. However, expanding eligibility for PALs to include commercial carriers and proposing to auction the PALs is likely to discourage and prevent utilities from accessing the band because of concerns about interference and congestion, as well as the difficulty of competing at auction with the commercial carriers, particularly in urban areas where costs would be expected to be high. As such UTC and EEI oppose those proposals that would expand eligibility and auction the PALs in the 3.5 GHz band, and UTC and EEI urge the Commission to adopt its original proposal in the NPRM to reserve the Priority Access tier for mission critical applications. Alternatively, if the Commission adopts expanded eligibility for and auctions of PALs, UTC and EEI recommend reserving some of the PAL or the GAA spectrum for mission critical communications and adopting rules that would avoid mutual exclusivity and/or promote the ability of utilities and CII to compete at auction for access to PALs. In that regard, UTC and EEI urge the Commission to include utilities and CII as eligible entities for Contained Access Facilities in the 3.5 GHz band, and UTC and EEI urge the Commission to permit outdoor as well as indoor operations.

UTC and EEI also suggest ways that the Commission should promote access to the 3.5 GHz band by utilities: including providing priority access for utilities, making utilities and CII eligible for contained access facilities and allowing both indoor and outdoor operations, extending the term of the licenses to ten years, reducing the size of the exclusion zones, and accommodating utilities by enabling them to compete in PAL spectrum auctions and/or avoiding PAL auctions altogether. Therefore, UTC and EEI are pleased to provide the following reply comments in response to the Commission's FNPRM.

UTC is an international trade association for the telecommunications and information technology interests of utilities and other critical infrastructure industries. Its members own, manage and control extensive communications networks that they use to support the safe, reliable and efficient delivery of essential electric, gas and water services to the public at large. These members include large investor-owned utilities that may serve millions of customers across multi-state service territories, as well as smaller rural electric cooperative utilities or municipal utilities that serve only a few thousand customers in isolated communities or remote regions of the country.

EEI is the association that represents all U.S. investor-owned electric companies. Our members provide electricity for 220 million Americans, operate in all 50 states and the District of Columbia, and directly employ more than 500,000 workers. With \$90 billion in annual capital expenditures, the electric power industry is responsible for millions of additional jobs. Reliable, affordable, and sustainable electricity powers the economy and enhances the lives of all Americans. EEI has 70 international electric companies as Affiliate Members, and 270 industry suppliers and related organizations as Associate Members. Organized in 1933, EEI provides public policy leadership, strategic business intelligence, and essential conferences and forums.

I. Utilities Are Making Effective Use of the 3.65 GHz band or Plan to Do So Under the Part 90 Rules.

The 3.65 GHz band is home to some very significant utility deployments, as well as some very large planned deployments. Ameren, a large investor-owned utility that serves 2.4 million residential, commercial, and industrial customers in the states of Illinois and Missouri filed comments that explained that it is aggressively utilizing the 3650-3700 MHz band to support the Illinois State Senate Bill 1652 that authorizes an investment of \$625 million over 10 years in the electric grid to modernize and add reliability for its customers.² The 3650-3700 MHz band is a key component of Ameren's communications network for the safe and efficient management of its utility grid and Advanced Metering Infrastructure (AMI) project, and Ameren has plans beyond 2015 to use the 3650-3700 MHz band as an enabler to merge AMI and SCADA traffic together on the same backbone for more efficient use of the available spectrum.³

Likewise, Exelon Corporation, which serves 6.6 million electric, gas and water customers through its operating companies in Illinois, Pennsylvania and Maryland (ComEd, PECO, and BGE), filed comments that reported that it is also using the 3.65 GHz band for systems it is using to meet the mandates of Title XIII of the Energy Independence and Security Act of 2007 (EISA) for a Smart Grid network.⁴ Iberdrola USA (which is the holding company for several utilities in the Northeast, including Rochester Gas and Electric Corporation (RG&E), Central Maine Power Company (CMP), and Maine Natural Gas and which serve nearly 2 million electricity

² Comments of Ameren Services Company in GN Docket No. 12-354 at 2 (filed Jul. 11, 2014).

³ *Id.*

⁴ Comments of Exelon Corporation in GN Docket No. 12-354 at 2 (filed Jul. 14, 2014).

customers), operates communications systems in the 3.65 GHz band for smart grid, and it is in the process of expanding its systems, pending Canadian coordination.⁵

In addition to these utilities that are already operating in the 3.65 GHz band, Oncor Electric Delivery and Great River Energy filed comments that reported that they intend to use the 3.65 GHz band for their smart grid deployments, as well. “Oncor⁶ has a conceptual communications network design that it anticipates implementing beginning in 2015 for broadband and IP-enabled applications utilizing the 3.65 GHz band for higher speed point-to-multipoint mission critical IP-based applications such as voice, data, distribution automation, smart metering and supervisory control and data acquisition (“SCADA”) necessary to support, monitor, control and secure various end points within the smart grid infrastructure.”⁷

Similarly, Great River Energy (GRE)⁸ stated in its comments that the “3650 to 3700 MHz is used by many utilities as a solution to some Smart Grid applications and GRE was considering a pilot installation of a Field Area Network (FAN), in conjunction with Connexus Energy, one of our member distribution cooperatives.” GRE added that “[g]iven the Commissions’ potential plans to extend the considered regulations to include the 3650 to 3700 MHz band, GRE has

⁵ Comments of Iberdrola USA in GN Docket No. 12-354 at 1-2 (filed Jul. 14, 2014).

⁶ Oncor operates the largest distribution and transmission system in Texas, serving ten million customers and providing power to three million electric delivery points over more than 103,000 miles of distribution and 15,000 miles of transmission lines. *Id* at 1.

⁷ Comments of Oncor Electric Delivery, LLC in GN Docket No. 12-354 at 1-2 (filed Jul. 14, 2014). Oncor is a regulated electric transmission and distribution service provider.

⁸ Great River Energy is a not-for-profit generation and transmission electric cooperative owned by its 28 member distribution cooperatives. Those 28 member cooperatives in turn provide electrical service to approximately 1.7 million people in a 56,000-square-mile area from Minneapolis-St. Paul suburbs to very rural areas of the north shore of Lake Superior to the farmlands of southwestern Minnesota. The loads served by the member systems are primarily residential, seasonal and agricultural loads. GRE owns and operates 12 power plants which generate more than 3,500 megawatts (MW) of electricity.

decided to put the plans for this pilot installation on hold until a determination is made.”⁹ Salt River Project also filed comments indicating its interest in using the 3.65 GHz band for smart grid too, describing this band as “one of the few spectrum options available for deploying a Wireless Field Area Network in support of our Smart Grid initiative.”¹⁰

II. The Part 96 Rules Would Negatively Impact Utility Systems in the 3.65 GHz Band.

Utilities are universally opposed to the Commission’s proposal to merge the 3.5 GHz and the 3.65 GHz bands and require incumbents in the 3.65 GHz band to transition over to the Part 96 Rules during a five year period. Ameren cited “serious concerns” about the impact the Part 96 Rules and policies will have on its ability to continue to operate and gain new licenses in this band with the assurances necessary to meet its requirements for interference protection and network capacity to meet growing demands.¹¹ Specifically, it cited the cost and difficulty of competing with commercial carriers for Priority Access Licenses (PALs), and the uncertainty of renewing the PALs from year to year as well as potential interference in the GAA category, as concerns.¹² Similarly, Exelon also expressed concerns that, “the potential for harmful interference that would affect the reliability of electric and gas utilities’ systems is too great.”¹³ SRP echoed that “it is our view that the rules and policies being considered for the CBRS regime

⁹ Comments of Great River Energy in GN Docket No. 12-354 at 3 (filed Jul. 14, 2014).

¹⁰Comments of Salt River Project Agriculture Improvement and Power District in GN Docket No. 12-354 at 1-2 (filed Jul. 14, 2014)(hereinafter “Comments of SRP”).

¹¹ Ameren Comments at 2.

¹² *Id.*

¹³ Exelon Comments at 3.

if extended to the 3650-3700 MHz band would be detrimental in our efforts to use this spectrum for our Smart Grid network.”¹⁴

As UTC explained in its initial comments, the Part 96 rules would require utilities to significantly reduce power, thereby impairing the performance of smart grid systems in the band and significantly increasing the cost of operating and deploying these systems.¹⁵ Southern Company agrees and states that “the 3650-3700 MHz band can be used for higher power operations than would be permitted for CBSDs,” and that “[f]or smart grid and other utility applications, small-cell deployments would be expensive and problematic to implement.”¹⁶ That is a common refrain among other utility comments, as well.¹⁷

III. The Commission Should Not Adopt its Proposal to Merge the 3.65 GHz Band with the 3.5 GHz Band.

The 3.65 GHz band has been and continues to be a success story. As API explains, “3.65 GHz is the only site-based licensed band available for higher speed point-to-multipoint private internal communications.”¹⁸ UTC and EEI agree with API that utilities and CII lack access to alternative spectrum and “[f]or that reason the band has increasingly become an important option for the oil and natural gas industry and many CII companies have made significant investments

¹⁴ Comments of SRP at 3.

¹⁵ Comments of UTC at 12-14.

¹⁶ Comments of Southern Company Services in WT Docket No. 12-354 at 9 (filed Jul. 14, 2014).

¹⁷ Comments of Iberdrola USA Networks in WT Docket No. 12-354 at 4 (stating that “[a]ny hardware or firmware upgrade requirements to bring devices to CBRS operational specifications surely will have a significant cost impact to any project.) Comments of Great River Energy at 4 (stating that “electrical consumers will be required to bear these additional costs in their electric rates and rate increases through public utility commissions (PUC) will need to be applied for.”)

¹⁸ Comments of the American Petroleum Institute in WT Docket No. 12-354 at 5 (filed Jul. 14, 2014)(hereinafter “API Comments”).

in the band.”¹⁹ In addition to utilities and CII, the band is heavily used by other incumbent licensees, such as ISPs too, and this use has significantly increased in the short time since the band was adopted in 2004.

As API noted, in the first year after the Commission certified the first piece of equipment for the 3.65 GHz band in December 2009, nearly 10,000 applications were filed to register 3.65 GHz band locations, and the registrations have continued at a similar pace ever since.²⁰ As Sprint observed in its comments, “in December 2012, when the instant NPRM was adopted, the FCC indicated that there were 2,117 licenses for the 3650-3750 MHz band with more than 25,000 registered sites. As of today, the FCC ULS database shows 2,617 active licenses, an apparent growth of 24% over the past 20 months, and over 39,000 registered locations, an apparent growth of 56% during the same period.”²¹

Utilities and CII have heavily invested in the band, particularly in the last few years and would not be able to recover their investments if the Commission adopts its proposal for a five-year transition period. As many utilities observe, the depreciation cycle for equipment is much longer than five years. “Existing utility automation equipment is planned for a 20 year plus lifecycle,” and “[w]ireless communication equipment to support these devices has a MTBF of 40+ years.”²² It is also worth noting that the Commission only recently allocated the 3.65 GHz band, and that it would be particularly unfair for the Commission to effectively reallocate this band for small cell spectrum sharing so quickly. Not only would this strand investment by

¹⁹ *Id.*

²⁰ API Comments at 4.

²¹ Comments of Sprint Corporation in WT Docket No. 12-354 at 3 (filed Jul. 14, 2014).

²² Comments of Iberdrola USA Networks at 4 (adding that “this figure has been quafified by multiple manufacturers over long term actual product field return data evaluations.”)

incumbent licensees in the 3.65 GHz band, it would set a dangerous precedent that would chill future investment by licensees in other bands. Thus, the Commission should not “pull the rug out from licensees that invested in the already successful 3.65 GHz band in favor of an unproven technology.”²³

Even AT&T, which supports merging the 3.5 GHz and 3.65 GHz bands, recognizes that there are technical issues and potential interference that the Commission must address in order to ensure that the 3.65 GHz band continues to be available for point-to-point and point to multi-point services.²⁴ Specifically, AT&T observes that “[u]se of dynamic channel allocation will cause retuning of the point-to-point or point-to-multipoint network which in turn could lead to service interruptions.”²⁵ It also observes that systems operating in the 3.65 GHz band won’t be able to protect incumbents in the 3.65-3.675 GHz restricted band if the equipment does not have the capability to sense or prevent interference with dissimilar contention technologies operating in the band.²⁶ UTC and EEI agree with AT&T’s assessment that the Commission needs to ensure that the 3.65 GHz band continues to be available for point-to-point and point to multi-point services.

There are also important questions raised on the record with regard to potential interference from PAL and GAA operations to C-band operations that the Commission also needs to address, as well. The Satellite Industry Association (SIA) actually opposed merging

²³ Comments of API at 6. *See also* Comments of the Blooston 3.65 GHz Coalition at 4 (underscoring that “The Commission Should Not Scrap a Framework for the 3.65 GHz Band That is Serving Licensees and the Public Interest.”) Note that the members of the Blooston 3.65 GHz Coalition appear to include rural telephone cooperatives, generally.

²⁴ Comments of AT&T in WT Docket No. 12-354 at 37-39 (filed Jul. 14, 2014).

²⁵ *Id.* (explaining that “[b]y changing the operating frequency of a single node, the SAS will trigger a service interruption in backhaul links and small cells that are served by the backhaul links. Changes to the frequency or bandwidth would further degrade network quality.”)

²⁶ *Id.*

the 3.5 GHz band with the 3.65 GHz band because of concerns about out-of-band emissions and potential interference to C-band operations at 3700-4200 MHz.²⁷ The problem is significant. As SIA explains, it is not practical for the SAS database to manage in-band interference, and the out-of-band emissions will be even harder for it to manage. Whereas there are only 37 FSS sites at discrete locations in the 3.5 GHz band, there are thousands of licensed FSS earth stations in the conventional C-band, which are dispersed geographically all across the country – and dozens of new earth station licenses are granted each year, and dozens more existing licenses are modified.²⁸ Add to the fact that C-band receive-only antennas are generally not required to be licensed or registered at all, and it is easy to recognize that the SAS will need to be able to protect these conventional C-band earth stations as well by performing real-time calculations required to prevent CBRS operations from exceeding the aggregate interference limits into these earth stations.²⁹ There is a long way to go before the SAS database is ready to provide that capability, and hence UTC and EEI agree that protecting the C-band is another reason why the Commission should not extend the 3.5 GHz band rules to apply to the 3.65 GHz band.³⁰

As several comments note, there are significant differences between the small cells that would operate in the 3.5 GHz band and the systems that currently operate in the 3.65 GHz band, which would naturally suggest that the Commission should keep these bands separate rather than

²⁷ Comments of the Satellite Industry Association at iii, 3, 15-18.

²⁸ *Id.* at 16.

²⁹ *Id.*

³⁰ *See also* Comments of the National Cable & Telecommunications Association at 1 (filed Jul. 14, 2014)(stating that “[c]able companies depend on the 3.7-4.2 GHz band for the delivery of video and increased use of the 3550-3650 MHz band and the adjacent 3650-3700 MHz band might raise interference concerns that require careful examination before moving forward. The Commission should not undertake any measures that would jeopardize C-Band operations in the 3.7-4.2 GHz bands.”) *And see* Comments of National Public Radio, Inc. at 12 (underscoring that “The Commission Should Defer Transitioning the 3650-3700 MHz Band To CBS Use Until CBS Use of the 3550-3650 MHz Band On A Non-Interfering Basis Has Been Established.”)

merging them. First and foremost, the 3.65 GHz band is not suitable as a “sandbox” for testing small cell spectrum sharing in order to make effective use of spectrum that would otherwise not be usable, because unlike the 3.5 GHz band, it is usable and is heavily used by incumbent high power operations.³¹ In addition, arbitrarily imposing the rules from the 3.5 GHz band to the 3.65 GHz band would impose unnecessary costs on future 3.65 GHz band equipment and potentially eliminate current permitted operations.³² Specifically, these costs are unnecessary because the interference environment in the 3650-3700 MHz band is far less challenging than it is for the 3550-3650 MHz band where, among other challenges, incumbent government operations over large geographic areas must be protected.³³ In that regard, the power levels proposed for the 3.5 GHz band are one-tenth of what is currently permitted for the 3.65 GHz band, and even though the Commission has proposed to permit higher power levels in rural areas for fixed point-to-point systems, UTC and EEI agree with Sprint and Siemens that the general power restrictions will prevent a wide range of innovative and existing uses, including smart grid as well as backhaul applications on a point-to-multipoint basis.³⁴ As such, the costs would outweigh the benefits of merging the bands, and the public interest would not be served by imposing the Part 96 rules on incumbents in the 3.65 GHz band.

³¹ Comments of Siemens Industry, Inc. in WT Docket No. 12-354 at 3 (filed Jul. 14, 2014).

³² Comments of Sprint Corporation in WT Docket No. 12-354 at 5 (filed Jul. 14, 2014).

³³ *Id.*

³⁴ *Id.* See also Comments of Siemens Industry, Inc. at 4 (filed Jul. 14, 2014)(stating that “[w]ithout a suitable regulatory regime for the 3650-3700 MHz band, we believe that the public benefits of a US-wide Smart Grid network will never fully be realized or at best, will be very slow to materialize.”) See also *Id.* (Incumbents in the 3650-3700 MHz band would be required to incur the significant cost of replacing fully functional equipment designed for higher power operation with new equipment that is SAS-compliant and suited to small cell deployments. Incumbents would experience service and operational disruptions resulting from the changeover.”) And see Comments of UTC at 12-13 (explaining that “these proposed power limits under the Part 96 rules for small cells would be substantially lower than the current limits for operations in the 3.65 GHz band under the Part 90 rules,” and that the “costs of reengineering the systems and upgrading equipment would be substantial.”).

IV. The Commission Should Protect Incumbent Operations in the 3.65 GHz Band.

In its initial comments, UTC suggested various ways that the Commission should protect the interests of incumbent licensees in the 3.65 GHz band, if it adopts its proposal to merge the two bands under the Part 96 Rules. Specifically, UTC suggested that 1) incumbent operators be grandfathered permanently; 2) they should be protected from PAL and GAA operations in the band; and 3) they should have first option to access PALs in their area.³⁵ Utilities need reliable communications for mission critical operations and they need additional capacity and coverage for existing systems. As such, these suggestions by UTC are important to enable utilities to continue support mission critical communications in the 3.65 GHz band going forward.

UTC's suggestions are supported by other comments on the record. The Wireless Internet Service Provider Association (WISPA) suggests that if the Commission does merge the 3.5 GHz and 3.65 GHz bands that it should allow a Grandfathered Wireless Broadband Provider to retain its Part 90 equipment indefinitely.³⁶ API also recommends that the Commission grandfather incumbents indefinitely and add locations to the Part 96 SAS database, while allowing them to add or modify sites going forward. Similarly, other commenters generally support extending the transition period longer than five years.³⁷

Other comments recognize that simply grandfathering incumbents indefinitely is not enough and that the Commission must also allow incumbents to expand existing systems and protect them against interference from PAL and GAA operations, as UTC recommended in its

³⁵ Comments of UTC at 14-18.

³⁶ Comments of the Wireless Internet Service Providers Association in WT Docket No. 12-354 at 37 (filed Jul. 14, 2014)(proposing a phased in approach that would require incumbents to use Part 96 compliant equipment as they change out equipment going forward, but would not require them to change out equipment at the end of the five year transition period).

³⁷ Comments of Blooston 3.65 GHz Coalition at 6-7 (stating that if the grandfathering proposal is adopted the period should be no less than thirteen years.”)

initial comments. Exelon explained that bandwidth limitations and interference issues in the 3.65 GHz band are already a significant issue and, even with the use of the proposed SAS database, that the potential for any increase in harmful interference is far too great, particularly because electric and gas utilities' communications requires the highest level of protection from harmful interference.³⁸ Moreover, incumbents would need to expand capacity and coverage of existing systems, and that would require additional channels, which would be constrained by the demand from GAA and PAL entrants in the band.³⁹ As such, UTC and EEI submit that these comments support UTC's recommendation to protect incumbents from interference from PAL and GAA operations by ensuring that incumbent systems receive priority status permanently.

In addition, other comments also agree with UTC that utilities are unable to compete with commercial carriers at auction, and these comments support various ways to make it possible for incumbents, such as utilities, to access PALs. Just as UTC proposed that utility incumbents should have a first option for PALs in the 3.65 GHz band, WISPA has suggested that ISP incumbents should have a right to first option to available PALs in their area after the end of the transition period.⁴⁰ Several utilities also suggest that the Commission should provide bidding credits for entities that would use the spectrum for "mission critical" communications systems, such as utilities. Alternatively, the Commission could hold a separate auction for these entities.⁴¹

³⁸ Comments of Exelon at 5.

³⁹ See Comments of Blooston 3.65 GHz Coalition at 6 (stating that grandfathering would not preserve the benefits of the current Part 90 licensing framework, since incumbents would not have the flexibility to modify and/or expand existing operations and these benefits would be foreclosed to companies that are new to the 3.65 GHz band.)

⁴⁰ *Id.* at 37-38 (stating that "[m]ost importantly, after the transition period, and subject to the proposals described above, Grandfathered Wireless Broadband Providers should be offered a first right to apply for PALs in the census tracts reported to the Commission and the SAS during the transition period.")

⁴¹ Comments of Exelon at 5. See also Comments of Oncor at 3 ("Oncor advocates that the Commission (1) reserve some of the Priority Access spectrum for mission critical communications, (2) give bidding credits to CIIs, and/or (3) otherwise place limits upon commercial carriers that will level the playing field and allow CIIs to fairly participate.")

Anyway, the Commission should accommodate utilities so that they can access PALs, either by providing them with a first option for PALs in their areas or through bidding credits or separate auctions when PALs are assigned through competitive bidding.

V. The Commission Should Promote Utility Access to the 3.5 GHz Band.

In its initial comments UTC suggested ways that the Commission could improve utility access to the 3.5 GHz band, and UTC and EEI reiterate those suggestions in these reply comments. Moreover, these suggestions are supported by many other comments that were filed on the record in this proceeding. Specifically, UTC and EEI suggest that the Commission not expand eligibility in the Priority Access tier, and/or that at least a portion of the tier be reserved for mission critical communications, consistent with the Commission's original NPRM.⁴² UTC and EEI also suggest that the Commission should not auction PALs, and if it does auction the PALs, the Commission should promote opportunities for utilities to compete at auction by providing bidding credits for entities that would use the band for mission critical communications, tailor the geographic areas or the channel sizes to the needs of mission critical communications users, and/or hold discrete auctions for mission critical communications users. UTC and EEI suggest that the Commission include utilities and other CII as eligible for Contained Access Facilities (CAF) for both indoor and outdoor operations. In that regard, UTC and EEI support the Commission's proposal to reserve 20% of the GAA spectrum for CAF purposes, and UTC and EEI would also support using PAL spectrum for this purpose provided that utilities and other CII are eligible for CAF and that permissible uses include outdoor operations, as well as indoor operations. Finally, UTC and EEI would support extending the term of the license to ten years and reducing the size of the exclusion zones.

⁴² *Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band* Notice of Proposed Rulemaking and Order, GN Docket No. 12-354, 2012 WL 6463547 (Dec. 12, 2012).

CONCLUSION

Utilities and other CII need access to suitable spectrum to meet increasing demands for capacity and coverage to support smart grid and other applications. They lack access to any dedicated spectrum, and existing spectrum is increasingly subject to interference and congestion – which threatens the reliability of mission critical operations that must operate with extremely low levels of latency and extremely high levels of availability and resiliency in order to ensure the safety and operational integrity of electric, gas and water generation, transmission and distribution operations.

Utilities and CII operate significant systems in the 3.65 GHz band, because it offers capacity and coverage to meet utility needs to support smart grid reliably and cost-effectively. Utilities and CII cannot risk the potential of interference and congestion to their systems in the 3.65 GHz band that would likely result from PAL and GAA operations in the band. Utilities have made significant investments in these systems, which would be threatened by the imposition of a five year transition period for their systems to come into compliance with the Part 96 rules. Finally, the public interest in the safety and reliability of essential electric, gas and water services outweighs any marginal benefits that would be gained by merging the 3.65 GHz band with the 3.5 GHz band. Therefore, the Commission should not adopt its proposal to extend the Part 96 rules to apply to the 3.65 GHz band. Alternatively, the Commission should grandfather incumbent systems permanently, protect them from interference from PAL and GAA operations, and provide first option for them to access PALs in the 3.65 GHz band, if the Part 96 rules are extended to apply to the 3.65 GHz band.

Utilities and CII need access to additional spectrum to support mission critical communications, and are interested in accessing the 3.5 GHz band. However, expanding

eligibility for PALs to include commercial carriers and proposing to auction the PALs is likely to discourage and prevent utilities from accessing the band because of concerns about interference and congestion, as well as the difficulty of competing at auction with the commercial carriers, particularly in urban areas where costs would be expected to be high. As such UTC and EEI oppose those proposals that would expand eligibility and auction the PALs in the 3.5 GHz band, and UTC and EEI urge the Commission to adopt its original proposal in the NPRM to reserve the Priority Access tier for mission critical applications. Alternatively, if the Commission adopts expanded eligibility for and auctions of PALs, UTC and EEI recommend reserving some of the PAL spectrum for mission critical communications and adopting rules that would avoid mutual exclusivity and/or promote the ability of utilities and CII to compete at auction for access to PALs.

Respectfully submitted,

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