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

In the Matter of	)	
	)	RM-11738
Realignment of the	)	
896-901/935-940 MHz Band	)	
To Create a Private Enterprise	)	
Broadband Allocation	)	

COMMENTS OF
DUKE ENERGY CORPORATION

Duke Energy Corporation ("Duke Energy ") hereby submits the following comments in response to the Petition for Rulemaking ("Petition") filed by the Enterprise Wireless Alliance and Pacific DataVision, Inc. (the "Petitioners") in the above-captioned proceeding.

I. OVERVIEW

As discussed below, while Duke Energy fully supports the call for the creation of a band of spectrum to be dedicated to utility and other critical infrastructure industry ("CII") wireless broadband operations, Duke Energy finds the Petitioners' proposal to be fatally flawed as a means to this end. Rather than providing what is needed - allowing CII direct and exclusive access to the spectrum it needs to support vital broadband requirements - the Petition would put that spectrum exclusively in the hands of a commercial entity based upon a vague promise to make that spectrum available to CII entities at an unspecified and potentially excessive price.

Further, to create the broadband spectrum band, the Petition would impose substantial burdens on CII entities, like Duke Energy, which operate vital communications networks on 900MHz Business and Industrial Land Transport ("B/ILT") channels. These burdens include: forcing relocation to a narrow part of the band, reducing the number of B/ILT channels, and

increasing the noise floor on the channels that remain (including problems of adjacent channel interference). The Petition would also require a licensing freeze which could last years and severely limit Duke Energy's ability to modify and expand its 900MHz systems.

The net result of the Petition, if granted, could make continued use of what would be left of the 900MHz B/ILT band difficult, forcing utilities and other CII entities to the offerings of the newly proposed Private Enterprise Broadband ("PEBB") licensee at almost any price, with the burden ultimately falling on utility ratepayers for the cost of such networks.

II. THERE IS AN URGENT NEED FOR DEDICATED BROADBAND SPECTRUM FOR UTILITY OPERATIONS

Electric utilities have historically played a vital role in supporting the economic development of the United States by providing safe and reliable energy services to industry, governmental agencies, and the general public. In order to provide these vital energy services in a safe and reliable manner, electric utilities are increasingly relying on broadband wireless data services and IP networks to monitor, manage, and control the electric power delivery system. Thus a critical element in providing safe and reliable electric power is access to cost effective and highly reliable broadband wireless data services.

Along with high reliability another key requirement for a broadband wireless network to effectively serve utilities is continuous and unimpeded availability, especially during times of significant weather events or other emergencies. Commercial cellular services were implemented to provide shared services for the general public and often become overwhelmed during emergencies and major public gatherings. This lack of reliable and unimpeded service is especially detrimental to utilities and other CII entities because it can occur at the same time the networks are needed to control, redirect, and safely restore failed electric power services as quickly as possible. This highlights the critical need for dedicated broadband wireless spectrum

to provide the dependable network services and consistent availability required to insure the safe and reliable operation of the electric delivery system.

Further, it is essential that this dedicated broadband wireless spectrum should be made available exclusively and directly to the utilities and other CII entities on a cost effective basis. If utilities are forced to bear the prohibitive cost of purchasing spectrum on the open market, utilities would be forced to pass on to rate payers these costs in the form of their electric bill. By contrast, direct access to broadband spectrum by the utilities would enable them to develop and maintain their own private and highly reliable broadband networks and to cost effectively manage, control, and safely operate the electric delivery system.

It is recognized in the electric utility industry that currently available private wireless services offered under Parts 90 and 101 of the Commission's rules are not sufficient for the growing broadband network needs of the utilities. It is further recognized that electric utilities have a critical need for direct access to broadband wireless spectrum below 1GHz to develop the private networks required for the effective command and control of electric delivery systems. Unfortunately, the Petition does not solve these problems or address these needs, but would only make the situation worse by reducing the performance of existing narrow band systems.

III. PUTTING 900 MHZ SPECTRUM EXCLUSIVELY IN THE HANDS OF A SINGLE COMMERCIAL PEBB LICENSEE TO CHARGE WHAT IT LIKES FOR BROADBAND ACCESS IS NOT THE ANSWER

If the Petition is granted, the resulting 3/3 MHz broadband channel would be available only to the Private Enterprise Broadband ("PEBB") licensee on an exclusive basis. While the Petitioners suggest a condition to the PEBB license requiring that a broadband solution with priority access be made available to CII entities, there is nothing in the Petition that would limit the price that might be extracted from CII entities for access to the spectrum, even when they are

being forced to vacate their current channels and constrain their operations in the 900MHz band to enable the broadband channel to be created.

The required offer by the PEBB licensee to build-to-suit a broadband solution would be on an exclusive and noncompetitive basis. This exclusive and noncompetitive advantage held by the PEBB licensee may result in a non-cost effective solution as the only option available for the current B/ILT entities to develop their mission critical broadband networks. This is why it is critical that any unallocated broadband spectrum be made available directly and exclusively to CII entities so that they may seek to implement cost effective networks to suit their needs.

IV. FORCING THE RELOCATION OF UTITITY AND OTHER CII ENTITIES TO A NARROW PART OF THE 900MHZ BAND WOULD HAVE A SIGNIFICANT NEGATIVE IMPACT ON THEIR OPERATIONS

The negative impacts of the Petition, if granted, on current utility and CII entities who are B/ILT license holders are significant. These negative impacts include the following:

- Reducing the number of narrowband channels from the 199 available today to 159 under the proposal. The net effect is to make it even more difficult if not impossible to allocate non-interfering channels in highly congested areas.
- Increasing noise floor level in the resulting 2/2 MHz narrowband segments due to compacting the available B/ILT channels into smaller spectrum segments.
- Creating potential problems of adjacent channel interference generally not experienced by B/ILT licensees today, but at much greater risk when forced into a narrowly compacted portions of the spectrum as proposed.
- Imposing a new freeze on 900MHz licensing that could prevent B/ILT licensees from upgrading their 900MHz systems to meet changing requirements and/or requiring them to go through time-consuming and expensive waiver processes to gain permission to do so.

- Absent binding and solidly backed financial commitments to pay the relocation cost for current B/ILT licensees, the possibility that the proposed relocation process could break down with B/ILT licensees and potentially the Commission caught in the middle.
- Even if incumbent relocation costs are fully covered by the Petitioner, current B/ILT licensees would have to direct significant internal resources away from critical utility projects and towards the re-banding effort, with at best no inherent benefit to utility operations and possibly reduced performance of the incumbent systems.

Against these negative impacts, there is no corresponding benefit (other than to the PEBB licensee) to those entities that would be forced to relocate their channels as part of the realignment plan advocated in the Petition. The creation of the proposed 3/3 MHz broadband channel would benefit utilities and other CII entities if they had direct and exclusive access to this spectrum and could create cost-effective private networks to meet their broadband requirements. They could also transition some of their current operations on 900MHz B/ILT channels to the new spectrum. But that is not what is offered by the Petition. Therefore, for these reasons, Duke Energy opposes the petition for realignment of the 900MHz spectrum as proposed in the Petition.

V. SPECIFIC QUESTIONS RAISED IN PUBLIC NOTICE

Duke Energy has endeavored to answer questions the Commission has asked the commenters to consider with respect to this Petition:

- What need do B/ILT entities, particularly CII entities, have for broadband services that can be provided over a 3/3 MHz channel and cannot be met by existing broadband service providers?

Electric utilities and other CII users need access to highly reliable broadband networks to support the growing need for high capacity networking with facilities and devices in the field in order to execute critical command, control, and monitoring functions. Existing wireless broadband service providers cannot provide the consistent network availability and reliability required, especially in emergency situations. Utilities and other CII users need access to broadband RF spectrum below 1GHz to establish their own dedicated broadband command and control networks.

- What functionality do these entities currently lack that could be provided pursuant to the proposed realignment?

  The need for highly available and reliable broadband IP networks is increasing dramatically and they are urgently needed to support the critical command, control and monitoring functions of the electric delivery system. But the spectrum resources currently available to utilities are insufficient to meet these needs. Allocating the dedicated 3/3 MHz spectrum for the exclusive and direct use of utilities and other CII entities would allow the implementation of a broadband IP network capable of delivering both the high availability and reliability required to support critical command, control, and monitoring functions. Without this enhanced network capability, utilities are relegated to using inefficient and substandard commercial and other low bandwidth wireless services resulting in suboptimum performance of the electric delivery system at best, and which could realistically result in catastrophic failures in a worst case.

- Does the need for such services exist nationwide?

  Yes, since the electric power delivery system exists nationwide, there is a nationwide need for dedicated broadband spectrum below 1GHz to allow utilities and other CII

entities to establish the IP network services required to support the critical command and control functions for the electric delivery system.

- What other rule changes would be needed to prevent interference between the PEBB licensee and adjacent-channel operations?

  If the Commission rules in favor for the Petition, guard bands at the edges of the PEBB licensee's band may be required to prevent interference between the PEBB licensee and adjacent channels. Additional rule protection against adjacent channel and other potential interference exacerbated by the compacting of channels as proposed should be considered so that B/ILT licensees forced to relocate are able to maintain current levels of interference free system performance.

- What are the estimated costs to relocate incumbents from the broadband segment to the narrowband segment?

  While no detailed analysis of costs has been completed, there is an estimated 295 instances (channel/location pairs) of the affected channels in Duke Energy's 900MHz land mobile radio system, which includes more than 4,200 mobile units. Considerable staff resources would be required to plan and execute the changes. This, at a minimum, would include: coordinating the frequency changes, coordinating the license changes, documenting the changes, developing the change procedures, providing additional training as required, implementing the changes, and updating the "as built" documentation. Any hardware upgrades or additional filters or other hardware required to accommodate the changes would need to be fully evaluated as well. Even if the PEBB finances the staff time required to plan and implement the re-banding, there will be other intangible costs incurred by Duke Energy. Company staff will not be able to accomplish

other planned and scheduled activities in a timely manner while diverted to support the realignment activities. Other intangible costs are related to the service interruptions and outages that would be experienced during the required frequency conversions. There will also be a negative impact on the system users as they attempt to perform both routine and emergency work activities during these outages. A licensing freeze would limit our ability to make system changes and enhancements, thus creating another intangible cost of implementation.

- Will the narrowband segment accommodate all relocating licensees, even in congested areas?

  This is a very troubling question, not just relating to existing operations, but also the ability of existing systems to upgrade, modify, or grow their systems. If the Petition is granted, the number of channels available for the B/ILT users would be reduced from the 199 currently available to 159, all of which will be located in a continuous 2/2 MHz band under the proposed plan. Trying to compact all current operations into the smaller band without sacrificing functionality may prove difficult because of the added interference potential of such a band configuration. In addition, in urban areas Duke Energy has been unable to find available non interfering channels needed for system expansion. Under the Petitioner's proposal, even fewer channels will be available further impairing the ability to implement needed system expansions, particularly in highly congested areas.

In conclusion, Duke Energy, for the reasons stated herein, respectively reiterates its opposition to the Petition for realignment of the 900MHz spectrum as proposed by the Enterprise Wireless Alliance and Pacific DataVision, Inc.

Respectfully submitted,

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