

**BEFORE THE  
FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, DC 20554**

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

**To: Chief, Wireless Telecommunications Bureau**

**REPLY COMMENTS  
OF THE  
NATIONAL RURAL TELECOMMUNICATIONS COOPERATIVE**

The National Rural Telecommunications Cooperative (“NRTC”)<sup>1</sup> is pleased to submit these Reply Comments regarding the Comments filed in response to the rules proposed by Pacific DataVision, Inc. and the Enterprise Wireless Alliance (together, “Petitioners”) to realign the 900 MHz band for a broadband service offering to electric utilities, oil and gas companies, and others in the Critical Infrastructure Industries (“CII”).<sup>2</sup>

In its initial Comments in this proceeding, NRTC supported the *concept* of broadband for CII but expressed concern the Petition lacked sufficient technical information to justify initiation of a rulemaking proceeding. Petitioners’ recently submitted rules provide certain additional specificity yet have prompted almost universal opposition by electric utilities, oil and gas

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<sup>1</sup> NRTC, founded in 1986 by electric cooperatives, the National Rural Electric Cooperative Association (“NRECA”), and the National Rural Utilities Cooperative Finance Corporation (“CFC”), is a non-profit cooperative association representing the interests of more than 1,500 rural utilities and affiliates in 48 states. NRTC’s mission is to ensure state-of-the-art telecommunications services are available throughout rural America, just as they are in more urbanized areas.

<sup>2</sup> Wireless Telecommunications Bureau Seeks Comment on Supplement to Enterprise Wireless Alliance and Pacific DataVision, Inc. Petition for Rulemaking Regarding Realignment of 900 MHz Spectrum, Public Notice, RM-11738 (rel. May 13, 2015) (hereinafter “Public Notice”).

companies, railroads, and their respective trade associations – the very entities intended to be benefited by the proposal. In particular, a number of commenters are concerned the proposed rules will cause undue interference to many millions of FlexNet™ meter reading and smart grid devices manufactured by Sensus USA (“Sensus”) and operated on adjacent channels. As a distributor of hundreds of thousands of these devices to rural electric cooperatives across the country, NRTC shares these concerns.

In light of the uniformity of the comments filed in opposition to the Petition, a Notice of Proposed Rulemaking (“NPRM”) proposing specific rules to implement Petitioners’ proposals remains premature. Instead NRTC again urges the Commission to issue a Notice of Inquiry (“NOI”) to identify, explore, and resolve the many unanswered questions presented by Petitioners’ proposals – not the least of which is the extent of adjacent channel interference to FlexNet™ devices – before initiating a rulemaking proceeding. NRTC is available to work with the parties toward an acceptable resolution of technical and other issues raised in the Petition.

### **REPLY COMMENTS**

More than 800 electric, gas, and water utilities currently use more than 15,000,000 FlexNet™ devices for Advanced Metering Infrastructure (“AMI”), demand response, Supervisory Control and Data Acquisition (“SCADA”), voltage regulation, and other essential functionalities on frequencies adjacent to the proposed allocation. Many of these operations require real time data with no interruption.

To date, NRTC has installed or has under contract to install approximately 500,000 of these Sensus devices for more than 50 rural electric cooperatives.<sup>3</sup> All of them are operated on

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<sup>3</sup> These figures likely will increase in the coming years as more electric utilities, including rural cooperatives, adopt smart grid technologies. Comments of the National Rural Telecommunications Cooperative in Response to Petition for Rulemaking by the Enterprise Wireless Alliance and Pacific DataVision, Inc., RM-11738, January 12, 2015, p. 3.

Narrowband PCS (“NPCS”) frequencies immediately adjacent to the broadband allocation suggested by Petitioners.

Other than Petitioners themselves, no other commenters seem to think the proposed rules will adequately protect these devices from undue interference. According to the comments, millions of these devices could be subject to significant interference from Petitioners’ proposed operations on nearby frequencies:

**Sensus**. In its Comments, Sensus explains in considerable detail how Petitioners’ proposed high powered, broadband LTE operations on adjacent frequencies will cause massive interference to its FlexNet™ devices.<sup>4</sup> Sensus reports that some FlexNet™ systems have experienced harmful interference from substantially less noise than what would be permitted under Petitioners’ suggested rules. FlexNet™ systems apparently have experienced harmful interference when receiving less than one-one-hundredth (1/100) of the noise Petitioners’ proposed rules would allow.<sup>5</sup> Sensus challenges many of Petitioners’ basic technical assumptions and argues Petitioners present no laboratory or field tests to demonstrate how its proposed operations will impact the FlexNet™ receivers. Sensus also provides extensive technical support for its conclusions.<sup>6</sup> Until Petitioners adequately demonstrate their proposed broadband service can be provided without causing harmful interference to adjacent channel users, Sensus urges the Commission to decline further action on the Petition.<sup>7</sup>

**Southern Company Services, Inc (“Southern”)**. Southern, which has deployed more than 4,400,000 Sensus devices as part of its smart grid modernization program, argues the

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<sup>4</sup> Comments of Sensus USA Inc. in Response to Public Notice Dated May 13, 2015, RM-11738, June 29, 2015 (Sensus Comments).

<sup>5</sup>Id., p. 5.

<sup>6</sup>Id., pp.6-14, Exhibits 1-6.

<sup>7</sup> Id, p. 28.

proposed rules contain even less interference protection for adjacent band licensees than what was suggested in the initial Petition.<sup>8</sup> According to Southern, “[t]he Petitioners’ Supplement not only fails to address the interference issue, as Petitioners earlier acknowledged must be done, but it actually recommends that the FCC adopt rules that would *increase* the potential for interference from PEBB systems to FlexNet systems operating in the adjacent NPCS band.”<sup>9</sup> Southern argues Petitioners’ proposed rules are “woefully inadequate to prevent harmful interference to communications systems used by Southern and other CII – the same entities the Petitioners claim will benefit from the service they wish to provide.”<sup>10</sup> To overcome this harmful interference, Southern says it would be forced to increase significantly its fixed infrastructure to maintain the same service level, thereby placing an unnecessary and unfair burden on its electric ratepayers so Petitioners can provide commercial wireless broadband service to CII entities – the same entities that have expressed concerns with Petitioners’ proposal.<sup>11</sup> Southern suggests the Commission decline to initiate a rulemaking proceeding unless Petitioners agree to specific measures that will prevent harmful interference to adjacent band systems.<sup>12</sup>

**PECO Energy Company (“PECO”)**. PECO, another customer of Sensus, also argues the draft proposed rules will not adequately protect Narrowband PCS systems. According to PECO, Petitioners may have used an inappropriate model, thereby underestimating the potential for harmful interference to adjacent channel operations. As a result of Petitioners’ proposed

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<sup>8</sup> Comments of Southern Company Services, Inc. on Supplement to Petition for Rulemaking, RM-11738, June 29, 2015 (“Southern Comments”), pp. 2-3.

<sup>9</sup> Id., p.4. (emphasis in original).

<sup>10</sup> Id., p. 9.

<sup>11</sup> Id., p. 5.

<sup>12</sup> Id., p. 9.

operations, PECO, like Southern, would be required to add additional infrastructure, at a substantial cost, to maintain the same level of service. PECO argues Petitioners should evaluate actual interference levels by conducting real world field tests for multiple operating environments. Once those tests have been completed, PECO urges Petitioners to submit the results for review as part of the record in this proceeding.<sup>13</sup>

**Sensus Partners and Advisors Network (“SPAN”)**. SPAN, a group representing almost 100 different users of Sensus’ equipment, including FCC licensees, FlexNet™ operators, and utilities that distribute electric, natural gas and/or water to residences and businesses, also expresses serious concerns that the system proposed by Petitioners will create significant out-of-band interference.<sup>14</sup> SPAN complains the additional noise level will degrade affected FlexNet™ systems and cause a loss of more than 70% of message traffic.<sup>15</sup> A loss of this magnitude, according to SPAN, will effectively render the FlexNet™ systems unusable for the duration of the interference. SPAN urges the Commission to deny the Petition and reject Petitioners’ proposed rules.<sup>16</sup>

**Harris Corporation Comments (“Harris”)**. According to Harris, Petitioners’ proposed interference standards should be more stringent. In proposing a band reconfiguration without guard band protection, Harris argues Petitioners propose a band structure that already has been rejected by the Commission in the 700 and 800 MHz bands. A guard band reduces out-of-band broadband transmitter energy into adjacent channels, and provides sufficient frequency spacing to allow various interference mitigation methods at the transmitter, including highly selective

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<sup>13</sup> Comments of PECO Energy Company, RM-11738, June 29, 2015 (“PECO Comments”).

<sup>14</sup> Comments of the Sensus Partners and Advisors Network, RM-11738, June 29, 2015 (“SPAN Comments”).

<sup>15</sup> SPAN Comments, pp. 2-3.

<sup>16</sup> Id.

infrastructure filters. Instead of an NPRM, Harris (like NRTC) supports issuance of an NOI to allow further study of Petitioners' proposals.<sup>17</sup>

**Utilities Telecom Council (“UTC”)**. Like the other commenters, UTC is concerned the Petitioners' proposed interference thresholds and minimum receiver standards do not sufficiently protect CII operations. UTC renewed its request for significantly stronger interference protection for AMI systems in adjacent bands and joined Harris in urging a guard band to protect narrowband operations below 937 MHz and above 940 MHz.<sup>18</sup>

**The Association of American Railroads (“AAR”)**. AAR is “not inclined to support the proposal because of its continued concerns regarding the potential interference from the proposed PEBB service to adjacent-band operations.”<sup>19</sup> AAR argues Petitioners have not provided any interference analyses demonstrating that AAR's adjacent-band Advanced Train Control System license will be adequately protected. The association also points out Petitioners have now proposed to make the out-of-band emission limits 18 dB less stringent than those proposed earlier, allowing 63 times more power in the adjacent bands and greatly increasing the risk of interference.<sup>20</sup> To the extent the Commission decides to grant the Petition and initiate a rulemaking, AAR urges an entirely different set of rules be proposed to protect adjacent narrowband operations.<sup>21</sup>

## CONCLUSION

While NRTC continues to support the concept behind Petitioners' efforts to develop broadband spectrum targeted for use by electric utilities and others in the Critical Infrastructure

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<sup>17</sup> Comments of Harris Corporation, RM-11738, June 29, 2015.

<sup>18</sup> Comments of the Utilities Telecom Council, RM-11738, June 29, 2015.

<sup>19</sup> Comments of the American Association of Railroads, RM-11738, June 29, 2015 (“AAR Comments”), pp. 1-2.

<sup>20</sup> Id.

<sup>21</sup> Id.

Industries, the opposition from users of adjacent channels is uniform and loud. In light of these comments, NRTC is extremely concerned with the potential for interference to rural electric cooperatives and other utilities using FlexNet™ systems under the existing rules. Without further protections for adjacent channel operations, NRTC is unable to endorse the Petition.

NRTC continues to recommend that the Commission issue an NOI rather than an NPRM so all relevant questions – especially the impact of Petitioners’ proposal on millions of Sensus devices operating on nearby frequencies – can be identified, studied, and resolved before the Commission proposes to adopt specific rules to implement Petitioners’ proposals. NRTC remains available to work with the Commission, Petitioners, and all affected parties toward development of appropriate and reasonable solution.

**Respectfully submitted,**

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