

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

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

To: Chief, Wireless Telecommunications  
Bureau

**COMMENTS OF  
SOUTHERN COMPANY SERVICES, INC.  
ON SUPPLEMENT TO PETITION FOR RULEMAKING**

Southern Company Services, Inc. (“Southern”), on behalf of itself and its affiliates, hereby submits its comments in response to the Bureau’s May 13, 2015, Public Notice seeking comment on a supplement to the above-referenced Petition for Rulemaking filed by the Enterprise Wireless Alliance (“EWA”) and Pacific DataVision, Inc. (“PDV”) (collectively referred to herein as the “Petitioners”).<sup>1</sup>

The Petitioners have requested the initiation of a rulemaking proceeding looking toward a mandatory restructuring of the land mobile allocation at 896-901/935-940 MHz (“900 MHz”) to allow PDV, and any similarly-situated Private Enterprise Broadband (“PEBB”) licensees, if any, to aggregate narrowband 900 MHz channels into a 3/3 MHz broadband segment. The Petitioners claim they will use this broadband spectrum to seek to provide commercial service to Critical

---

<sup>1</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*, 28 FCC Rcd 14424 (WTB 2015).

Infrastructure Industries (“CII”) or any other business enterprises wanting broadband wireless service. But, instead of making a viable and enforceable commitment to provide CII with commercial services on a priority basis, Petitioners’ proposal – even as supplemented on May 3, 2015 – would actually harm existing CII communications systems such as Southern’s Advanced Meter Infrastructure (“AMI”) system.

Southern’s initial comments on the Petition were limited to addressing Southern’s serious concerns with respect to the potential for interference to Southern’s extensive AMI system that has been deployed in the Narrowband PCS (“NPCS”) band immediately adjacent to the 900 MHz private land mobile band. Southern’s AMI system, which to date has deployed more than 4.4 million devices, is part of a comprehensive smart grid modernization program that provides benefits to electric customers, the environment, and the company far beyond the convenience of remotely reading meters for billing purposes. Southern noted that the Petitioners had not met their burden of describing, in specific terms, the rules that would be required to ensure that PEBB systems would not interfere with incumbent systems in the 900 MHz band and in adjacent bands. Because the Petition failed to address this important issue, Southern recommended that the Commission issue a Notice of Inquiry before deciding whether to commence a rulemaking proceeding. However, the Petitioners still do not sufficiently address this issue, so Southern must reiterate that commencement of a rulemaking proceeding would be premature.

#### **I. Petitioners’ Suggested Rules Fail to Address Key Issues Raised in Initial Comments**

The Petitioners filed a Supplement on May 3, 2015, in which they offered a draft of suggested rules (“Suggested Rules”) for a PEBB allocation. Most of the Petitioners’ effort was devoted to describing how the FCC could empower PEBB licensees to enforce a re-banding of

the 900 MHz private land mobile allocation, with significantly less information on how incumbent licensees in the Part 90 band and in the adjacent Part 24 NPCS band would actually be protected from interference. While Petitioners' latest filing attempts to, and in some ways actually does, better define their overall proposal, the Petitioners' Suggested Rules contain even less interference protection for adjacent band licensees than what was suggested in the initial Petition.<sup>2</sup>

In its initial Comments, Southern recommended that the Petitioners be required to address a number of technical issues, on the record, before the Commission decides whether a rulemaking should be initiated:

- How broadband transmissions at 900 MHz, from both fixed devices and mobile units, could impact Narrowband PCS operations in the 901-902/940-941 MHz bands.
- How broadband transmissions at 900 MHz, from both fixed devices and mobile units, could impact 900 MHz narrowband land mobile systems operating in either analog or digital modes.
- How the repacking of incumbent 900 MHz land mobile systems into 40% of the current band would affect the overall spectrum environment.
- How the combined impact of broadband operations and land mobile systems operating in a reconfigured 900 MHz band would impact Narrowband PCS.
- The specific technical limitations and operating rules that would be needed to ensure there is no harmful interference to other licensed radio systems.<sup>3</sup>

---

<sup>2</sup> In a cover letter to their Suggested Rules, Petitioners state that the Suggested Rules back away from what they term "an extraordinary level of protection to highly interference-susceptible fixed data systems," and that instead they are proposing a less stringent emission mask for PEBB operations with a general obligation on PEBB licensees to address interference complaints when they arise. A proposal to address interference *after* it occurs does not evidence a meaningful attempt at mitigating the serious concerns that were raised by incumbent licensees.

<sup>3</sup> Comments of Southern Company Services, filed January 12, 2015, at 8-9.

However, without addressing these fundamental technical issues, the Petitioners have presented their Suggested Rules on how the FCC could award PEBB licenses and empower these licensees with enforceable rights to transition narrowband users to other frequencies. Indeed, the Petitioners' Suggested Rules, if adopted, would potentially allow greater levels of interference to incumbent systems than the terms of the Petition itself. Petitioners, in the Suggested Rules, have seemingly abandoned their earlier interest in at least a modest guard band between the broadband PEBB allocation and NPCS,<sup>4</sup> and are now requesting a more relaxed emission mask than they had earlier proposed,<sup>5</sup> while recommending an ambiguous rule that, if out-of-band emissions from PEBB transmitters cause harmful interference, "the Commission may, in its discretion, require greater attenuation than specified" in their Suggested Rules.<sup>6</sup> The 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>7</sup>

Southern has been working closely with Sensus USA, Inc. to evaluate the potential for interference to Southern's AMI system, using Sensus' FlexNet technology, from PEBB systems operating under the Petitioners' Suggested Rules. Southern is familiar with the separate

---

<sup>4</sup> Reply Comments of EWA and PDV, filed January 27, 2015, at 11 ("One approach under consideration is to shift the PEBB allocation lower in the 900 MHz band so that it is not immediately adjacent to the NPCS spectrum.")

<sup>5</sup> Letter dated May 3, 2015, from Elizabeth R. Sachs to Marlene H. Dortch, at 1.

<sup>6</sup> Petitioners' Suggested Rule 90.1419(b).

<sup>7</sup> See, e.g., Petition for Rulemaking, filed November 17, 2014, at 12, and n.25 ("The Petitioners recognize that the rules governing the PEBB must ensure that it is a compatible neighbor both to narrowband 900 MHz licensees below 898/937 MHz and to those operating in the band immediately above 901/940 MHz.")

Comments that Sensus will be filing on the Suggested Rules, and agrees with Sensus that the Suggested Rules will not prevent harmful interference from PEBB systems to FlexNet AMI systems operating on NPCS spectrum at 901-902/940-941 MHz.

Southern has verified, through continual monitoring, that the noise floor of the NPCS channels on which it operates is typically less than -168.5 dBm/Hz. If the Commission were to authorize broadband operations on the Part 90 allocation with the minimal limitations requested by the Petitioners in their Suggested Rules, Southern's AMI system would likely receive harmful interference from PEBB systems. To overcome this harmful interference Southern would be forced to significantly increase its fixed infrastructure to maintain the same service level, thereby placing an unnecessary and unfair burden on its electric ratepayers, all so that PDV and similarly situated PEBB licensees can provide commercial wireless broadband service to CII entities – the same entities that have expressed concerns with Petitioners' proposal.<sup>8</sup>

The Petitioners previously acknowledged that a PEBB licensee, as the “newcomer,” would have “full responsibility for rectifying interference caused to existing, authorized services,” under long-standing Commission policy. They have also represented their intent to work proactively to “ensure that any potential interference is eliminated in advance, not rectified after the fact.”<sup>9</sup> Unfortunately, the Petitioners have been unable or unwilling to offer specific measures that will “ensure that any potential interference is eliminated in advance.” The Commission should not entertain a rulemaking proposal for a new service allocation, and

---

<sup>8</sup> A rule on after-the-fact interference mitigation is not a substitute for strong and enforceable measures to ensure overall compatibility between users in these adjacent bands.

<sup>9</sup> Comments of EWA and PDV, filed January 12, 2015, at 7, citing, among other authorities, Broadcast Corp. of Georgia, 92 FCC 2d 910 (1982). See also, Midnight Sun Broadcasting Co., 11 FCC 1119 (1947).

particularly one in which flexible use is requested, where the proponents cannot identify specific measures to prevent harmful interference to other users.<sup>10</sup>

## **II. Southern's AMI System Supports Critical Infrastructure and Must be Protected from Harmful Interference**

Southern has made a substantial investment in its AMI system, including, to date, more than 600 tower-mounted transceivers and 4.4 million endpoint devices. These devices are deployed throughout Southern's electric service territory, comprising approximately 120,000 square miles in four states. Due to the size of its service territory, the number of endpoint devices that must be served, and the level of reliability needed for adequate performance, Southern selected the FlexNet system operating on licensed NPCS spectrum. Southern has operated this extensive AMI system with minimal interference issues for more than seven (7) years.

Southern has confirmed, over the past seven years, that an effective AMI system is a critical part of a modern electrical distribution system. Southern's AMI system provides necessary information for both its electric distribution engineers and its electric customers. This information goes well beyond just collecting usage data for billing purpose. As described further, below, it also provides status information and certain operational control features for energy management, while providing customers with important usage information. Southern's electric distribution engineers are increasingly reliant upon a broad range of critical data generated and communicated through the AMI system.

Southern's engineers constantly use AMI data to provide better quality and more reliable electric service to Southern's customers. The frequency of the data collection ranges from daily to real-time. For example, daily reads of data from AMI endpoint devices help monitor for

---

<sup>10</sup> 47 U.S.C. §303(y) (the Commission may allocate spectrum so as to provide flexibility of use if, among other things, "such use would not result in harmful interference among users.")

service quality. Hourly data collections are used to determine the health of capacitor banks and transformers, allowing Southern to proactively manage the servicing or replacement of critical components on the electric system. Data collected at 5 to 15 minute intervals can be used in planning for correct transformer sizing. Real time data is used in connection with the company's Outage Management System to identify areas experiencing an outage, the likely components on the system that have failed or tripped, the critical customer locations (*e.g.*, hospitals, public safety facilities, and customers with other special needs) that must be restored on a priority basis, and the status of components on the electric system that have been repaired and can have power restored to them. AMI allows Southern to identify loss of commercial power at a specific customer location, as well as the ability to confirm that normal service has been restored to a specific customer location after repairs have been effectuated. All of these functions, using data from the AMI system, help improve system reliability and power quality.<sup>11</sup>

Current and future uses of AMI data continue to grow. For example, the AMI system is used for Southern's Demand Response program. Ongoing analysis of AMI data also allows more accurate predictions of electric demand at future points in time. It is anticipated that this will allow more cost-effective scheduling of power generation to meet the changing demand, and will contribute to greater reliability and reduced environmental impacts. Given the foregoing current

---

<sup>11</sup> Improving the reliability of commercial electric service benefits all customers, including commercial telecommunications service providers and the subscribers to such services. Although AMI cannot prevent all commercial power outages, AMI and other smart grid technologies can help reduce the number or scope of outages, thereby promoting public safety, health and welfare. As such, protection of utility communications systems is consistent with, if not mandated by, Section 1 of the Communications Act, which directs the Commission to use its regulatory authority to "promote the safety of life and property through the use of wire and radio communications." 47 U.S.C. §151.

and future uses of AMI, even short-term disruptions due to interference could be highly problematic, to say the least.

Disruption of AMI data, now or in the future, will significantly hamper Southern's ability to continue to provide safe, reliable electric power. A significant disruption in service could occur even if PEBB systems cause harmful interference to only one or two of Southern's transceivers at any given time, or for only brief periods of time, because a single transceiver could be the means through which Southern communicates with thousands of other endpoints (*i.e.* customer locations). In today's world, losing communication with electrical grid assets or customer locations, for even brief periods of time, is unacceptable.<sup>12</sup>

### **III. Conclusion**

The Petitioners have failed to demonstrate how broadband PEBB systems could operate in the Part 90 land mobile allocation without causing harmful interference to Southern's AMI system in the adjacent NPCS band. Instead of suggesting specific measures to prevent interference with this existing CII communications system, the Petitioners have even retreated from their earlier (albeit modest and insufficient) proposals to mitigate out-of-band interference. Petitioners' cavalier attitude toward interference to CII communications systems stands in sharp contrast to Petitioners' stated intent to provide specialized and priority communications services to these same CII entities.

---

<sup>12</sup> As an example, the expectation today is that Southern knows that a customer's power is out without the customer needing to call and report the outage, and without Southern's needing to contact the customer to confirm that power has been restored to the customer's location. This capability allows Southern to identify and clear outages in a timely and efficient manner, and without placing additional burdens on customers.

The Commission should view the entire proposal with skepticism, and decline to initiate a rulemaking proceeding unless and until Petitioners agree to specific measures intended to prevent harmful interference to adjacent band systems. In any event, the Commission should not propose rules modeled on Petitioners' Suggested Rules because they 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.

**WHEREFORE, THE PREMISES CONSIDERED,** Southern Company Services, Inc. respectfully requests that the Commission take action on this matter consistent with the views expressed herein.

Respectfully submitted,

**SOUTHERN COMPANY SERVICES, INC.**

By: /s/ Jeffrey L. Sheldon  
Jeffrey L. Sheldon  
LEVINE, BLASZAK, BLOCK & BOOTHBY, LLP  
2001 L Street, N.W., Suite 900  
Washington, DC 20036  
T: 202-857-2574  
E: jsheldon@LB3Law.com

Its Attorney

June 29, 2015