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*Electronic Submission*

Ms. Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12th Street, SW  
Portals II, Room TW-A325  
Washington, DC 20554

**Ex Parte Submission**

**RE: Petition for Rulemaking Filed by AT&T to Make 800 Cellular Base Station Power Rules Consistent with Rules for Other Mobile Broadband Services, WT Docket No. 12-40**

Dear Ms. Dortch:

In its October 29, 2015, *ex parte* submission in this docket, AT&T proposed a power flux density (“PFD”) limit of  $345 \mu\text{W}/\text{m}^2/\text{MHz}$  if the Federal Communications Commission (the “Commission”) adopts a PFD limit for Cellular licensees operating base stations using power spectral density (“PSD”) measurements.<sup>1</sup> AT&T explained that  $345 \mu\text{W}/\text{m}^2/\text{MHz}$  represents the maximum PFD in 95% of the area of a typical AT&T Cellular base station and thus, is representative of the real-world PFD to be expected in a broadband network.

On December 4, 2015, Pericle Communications Company and Shulman Rogers Gandal Pordy & Ecker, P.A. (collectively, “Pericle”) proposed a PFD limit per 800 MHz RF carrier per antenna sector, anywhere in the vicinity of the cell site, of  $625 \mu\text{W}/\text{m}^2$  until January 1, 2021, at which time the PFD limit would increase to  $3,000 \mu\text{W}/\text{m}^2$ . Pericle asks the Commission to apply this PFD limit to all base stations operating at over 500 Watts effective radiated power (“ERP”) and other base stations after receipt of an interference complaint or when replacing radio equipment or antennas. Pericle also proposes that Cellular licensees reimburse public safety licensees all reasonable costs expended to locate and mitigate interference. AT&T opposes Pericle’s proposal because it would extend to base stations operating under current power rules and presenting little to no risk of unacceptable interference to public safety devices, significantly reduces the benefits of using PSD, and discourages innovation and advancement in public safety devices and networks.

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<sup>1</sup> Letter from Linda S. Vandeloop, AVP-Federal Regulatory, AT&T Services, Inc., to Marlene H. Dortch, Secretary-Federal Communications Commission, WT Docket No. 12-40 at 2-3 (filed Oct. 29, 2015).

Pericle's proposal seeks protection from risks far beyond those presented by base stations that operate using PSD, covering even existing broadband Cellular base stations operating in accordance with current Commission rule section 22.913, such as those operating at less than 500 Watts ERP and those operating in rural areas between 500 and 1000 Watts ERP. Pericle's proposal seeks not a modification of the rules to account for Cellular licensees' use of PSD, but to renew arguments made in the rebanding docket and completely eliminate any interference risk, and is thus overreaching.

Pericle's proposal would also require Cellular licensees to limit the operation of base stations that present little, if any, risk of unacceptable interference to public safety devices, which the Commission has rightly been reluctant to do.

[W]e considered the comments of parties which advocated across-the-board limits on such cell parameters as maximum power flux density in the immediate vicinity of the cell, reduced effective radiated power, antenna vertical pattern restrictions, limits on the cumulative OOB from cell transmitters and the like. However, we recognized that such limits would impose heavy burdens on ESMR and cellular telephone licensees, and that the restrictions would require modifications of cells that had little, if any, potential for generating unacceptable interference. Therefore, in lieu of adopting what could be draconian rules, we are affording ESMR and cellular telephone licensees the discretion to make any necessary changes to their own systems—or changes to non-cellular systems affected by unacceptable interference—as may be necessary to eliminate unacceptable interference.<sup>2</sup>

Here, the Commission should be equally reluctant to remove Cellular licensees flexibility to mitigate an interference risk by means other than limiting the operation of every base station. In AT&T's experience, relatively few base stations present a risk of unacceptable interference to public safety devices. A significant majority of Cellular base stations present no risk of interference at all because of their location or manner of deployment<sup>3</sup> or because the public safety devices used by the jurisdiction in which they are located effectively reduce the interference risk. For those few base stations that present such a risk, Cellular licensees mitigate through minimal power reductions, relocating antennas, modifying antenna beam tilts, and other actions. Pericle's proposal would nevertheless require those base stations to limit their PFD to 625  $\mu\text{W}/\text{m}^2$ . It is important to note that AT&T's proposed PSD power limit will not increase

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<sup>2</sup> Improving Public Safety Communications in the 800 MHz Band, *et al*, Report and Order, Fifth Report and Order, Fourth Memorandum Opinion and Order, WT Docket 02-55, ET Docket No. 00-258, RM-9498, RM-10024, ET Docket No. 95-18, 19 FCC Rcd 14969, 15040 (2004).

<sup>3</sup> For example, Pericle indicates that of the more than 78 Cellular base stations investigated in the City of Oakland, less than a third required mitigation. Comments of Pericle Communications Company and Shulman, Rogers, Gandal, Pordy & Ecker, P.A., WT Docket No. 12-40 at 16 (filed Jan. 21, 2015) ("Pericle Comments").

that risk of interference. For these reasons, a PFD limit of  $625 \mu\text{W}/\text{m}^2$  is neither necessary nor workable.

Moreover, a PFD limit of  $625 \mu\text{W}/\text{m}^2$  is extreme, far below what is reasonable and far below current operations, and would restrict the power at which Cellular base stations could operate far below currently permissible levels. For example, a four foot panel antenna installed nine meters above ground level (“AGL”) would be limited to a maximum composite ERP of only 27.5 Watts, as it would hit a PFD of  $625 \mu\text{W}/\text{m}^2$  about 40 meters from the station. That same antenna installed 15 meters AGL would be limited to a maximum ERP of 72.4 Watts, as it would hit a PFD of  $625 \mu\text{W}/\text{m}^2$  about 80 meters from the station. And, installed 28 meters AGL, a four foot antenna would be limited to a maximum ERP of 316 Watts, as it would reach a PFD of  $625 \mu\text{W}/\text{m}^2$  PSD about 100 meters from the station. Needless to say, base stations power levels this low would make the PSD issue moot, as the PSD with a 10 x 10 LTE network operating on the different base station configurations referenced above would be a mere 2.75 W/MHz, 7.24 W/MHz, and 31.6 W/MHz, respectively. Even a PFD of  $3000 \text{mW}/\text{m}^2$  is unnecessarily restrictive, as, in the different antennas configurations described above, only the antennas deployed 28 meters AGL could be operated up to the currently authorized maximum ERP of 500 Watts without hitting a PFD of  $625 \mu\text{W}/\text{m}^2$ . These results are driven not only by the very low PFD limit proposed, but also by Pericle’s proposal to measure PFD “anywhere in the vicinity of the cell site.” As the Commission has observed, a 5% to 10% “allowance may be needed in areas where rolling terrain could increase the PFD over a small portion of the applicable area.”<sup>4</sup> In practice, an allowance is needed for all base stations, regardless of the PFD limit.

Setting a PFD limit of  $625 \mu\text{W}/\text{m}^2$  also eliminates the urgency to improve public safety devices and enhance public safety networks. Public safety receiver designs and their contribution to interference risks are well documented.<sup>5</sup> Nevertheless, some manufacturers have designed and offer public safety devices that minimize the likelihood of interference. Public safety agencies must transition to those interference resistant devices, especially in geographic areas where rebanding is complete, and continue pressuring manufacturers to improve their receiver designs. Public safety agencies must also continue to improve their networks. Restricting the operation of a Cellular base station cannot salvage receiver performance on a public safety network with a weak signal. Yet, Pericle’s proposal would remove all incentive for public safety agencies to take these actions, placing the responsibility for reducing the risk of interference solely on Cellular licensees. Imposing this burden on Cellular licensees nearly a dozen years after the rebanding docket removed all doubt about the need for improvements in public safety receivers and networks would be unjust and perpetuate the problem.

Further, there is no legitimate justification to impose on Cellular licensees an obligation to compensate public safety entities for dealing with interference complaints. Cost reimbursement

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<sup>4</sup> Amendment of Parts 1 and 22 of the Commission’s Rules with Regard to the Cellular Service, Including Changes in Licensing of Unserved Area, *et al*, Report and Order and Further Notice of Proposed Rulemaking, WT Docket No. 12-40, 29 FCC Rcd 14100, 14145 (2014).

<sup>5</sup> See *e.g.*, Pericle Comments at 6-14.

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is not part of the existing Part 22 or Part 90 interference mitigation rules, and, absent compelling reasons, the Commission should not disturb the balanced approach to interference mitigation adopted in the rebanding Order. Identifying and mitigating sources of interference is a shared responsibility between Part 22 and Part 90 licensees—just as it is for all licensees in adjacent spectrum bands. Cellular licensees incur costs of their own analyzing and responding to interference complaints, even when they are not the source of the interference, which is the situation in over two-thirds of the cases where investigations occur. In one recent investigation in South Florida, it was ultimately determined that a public safety Part 90 booster caused the interference. Yet, Cellular licensees are not seeking reimbursement for investigation costs in these instances. Moreover, it would be unjust to make Cellular licensees bear the costs to public safety entities of reacting to interference that is, at least in part, often a consequence of public safety's decision to not upgrade to newer devices with more robust designs.

For all of these reasons, the Commission should reject Pericle's efforts to impose an artificially low PFD limit and to impose costs on Cellular licensees for interference incidents. In accordance with section 1.1206(b)(2) of the Commission's rules, this letter is being filed electronically with your office. Please feel free to contact me if you have any questions.

Sincerely,

//s/ Linda Vandeloop

cc: Roger Noel  
Lloyd Coward  
Tom Derenge  
Keith Harper  
Moslem Sawez  
Nina Shafran  
Heather Moelter