UTC
UNITED TELECOM COUNCIL

May 2, 2003

Marlene Dortch, Secretary
Federal Communications Commission
445 Twelfth Street, S.W., Room TW A-325
Washington, DC 20554

Re: Ex Parte Notice – WT Docket No. 02-55
Improving Public Safety Communications in the 800 MHz Band

To the Secretary:

This is to provide notice that, on May 1, 2003, the United Telecom Council (UTC) submitted the attached document to Michael Wilhelm of the Wireless Telecommunications Bureau concerning the above-referenced docket. The document provides responses to questions asked by Mr. Wilhelm in an earlier meeting with UTC and other interested parties.

UTC, as part of the "Balanced Approach Proponents," has suggested specific changes to the technical rules for the 800 MHz land mobile frequency band to help eliminate current and prevent future harmful interference to Public Safety and other licensees operating in the band. The attached responses represent further details and revisions to the group's original proposal following additional meetings among engineers representing several user groups.

This Notice is being filed pursuant to Section 1.1206 of the Commission's Rules and Regulations, 47 C.F.R. § 1.1206. If there are any questions concerning this matter, please do not hesitate to contact me.

Sincerely,

Vice President and General Counsel

Cc: Michael Wilhelm
David Kaufman, Esq.

Attachment

Summary

The 800 MHz Balanced Approach Proponents (Proponents) offer an alternative to the rebanding of the 800 MHz band proposed by the Nextel Group. Details of the proposal may be found in the FCC record and in documents used in ex parte meetings with the FCC.

During the meetings with the Commission, FCC staff posed several technical questions of the Proponents, so that they may come to an informed technical decision. This document addresses those questions and is intended as a vehicle toward the end of providing the FCC with a complete technical solution to replace the PWC group proposal.

1) We claim a 89% reduction in intermodulation from the adoption of the 10-watt transmitter ERP for low sites. How was that number calculated?

According to Pinnacle West Corp. (AZ Public Service) these figures came from early Motorola comments in this proceeding and Pinnacle's own comments. Some Proponent participants subsequently have questioned the proposed 10-watt limit.

An alternative proposal is to limit the ERP of base stations with an antenna height of 100 feet above ground (30 meters) or less, to 100 watts. This power level is acceptable to the Proponents and represents a 7 dB reduction in power over the 500 watts allowed for rural systems and a 10 dB reduction in ERP over the 1000 watts allowed in suburban environments. This power reduction should reduce significantly the signal level "on the ground" from cellular-like systems in the 800 MHz band.

2) We suggest Part 101 be used to provide measurement criteria for system reliability in connection with our "harmful interference" definition. These rules do not easily transfer from microwave to land mobile -- how do we propose to use these?

The intent here is to determine the percentage degradation of an existing system from a proposed system. While the Part 101 engineering criteria calculates interference in percentage degradation, it is true that these criteria cannot be directly applied to a base mobile system. As an alternative, the only available algorithm to calculate percentage degradation for land mobile systems is the TSB-8.8 algorithm. While the TSB-8.8 algorithm was developed to address interference issues associated with land mobile refarming, the methodology could be used at 800 MHz to evaluate co-channel and adjacent-channel systems.

Implementing the use of TSB-8.8 could address potential interference from digital operations on channels directly adjacent to proposed facilities. Frequency coordinators

in the band must decide on mileage criteria that would necessitate evaluation of adjacent-channel facilities. Absent a current recommendation from 800 MHz frequency coordinators, a 20-mile radius is proposed.

3) We recommend adjacent-channel spacing criteria be adopted by coordinators. The WTB would like a proposal for this spacing.

Recommending an arbitrary adjacent-channel separation without knowledge of the systems on those adjacent channels could be challenged on a technical basis. Input from equipment manufacturers will lend some credibility to this approach. A reasonable case could be made for an adjacent-channel separation by using the emissions characteristics for digital equipment in the band. Unfortunately, emission characteristics also are dependent on the ERP of the adjacent-channel base station. An accepted model for digital, cellular-like base stations must be developed in order to come up with a strong technical argument for this approach.

Use of TSB-8.8, rather than a strict adjacent-channel mileage separation, could resolve any technical challenge with this approach.

4) We refer to "sideband emissions" separate from OOBE and suggest that the 700 MHz rules be adopted. Are we referring to sideband noise, and how is this different from OOBE?

We believe that all operations in the 800 MHz band (806-824/861-869 MHz) should be subject to a single rules section concerning emission restrictions. The requirements of 47 CFR 90.543 – Emissions limitations, including the ACCP Tables addressing adjacent channel and OOBE levels (excepting subparagraph (e), which applies specifically to 700 MHz harmonics) for 12.5 kHz or wider operations, should replace the current rules sections dealing with emission masks for various portions of the band. To implement this standard, 47 CFR 90.691- Emission mask for EA-based systems, should be modified. Should the Commission wish to take this opportunity to implement a unified emission restriction across the 700-900 MHz bands, 47 CFR 90.669 - Emission limits for MTA licensees also should be modified to apply the above standard.

This, coupled with ERP restrictions, would significantly reduce the possibility of interference between and to noise-limited systems operating in the vicinity of low sites. Any interference that should occur after the implementation of these standards could be resolved easily through "Best Practices" measures such as careful design of antenna systems, filters, and other non-transmitter-specific remedies. Under this proposal, manufacturers would be able to produce equipment usable across the entire band, maintaining economies of scale, encouraging manufacturer involvement and innovation and benefiting the 800 MHz market in general.

We believe that the combination of low-site ERP restrictions, the adoption of the ACCP attenuation requirements of 47 CFR 90.543, and the use of TSB-8.8 for adjacent channel separation, coupled with the removal of eligibility barriers to permit "frequency swapping" and other measures to allow operators to reduce or eliminate interference, will eliminate the need for the creation of a "guard band" as described in the PWC Plan, Appendix F, Section 4.1.2. As has been stated previously, the "sliding scale" of protection for frequencies in the proposed guard band might not significantly impact low-power campus systems, but would have a devastating impact on wide-area users currently licensed and operating in the proposed guard band, as well as the many non-public safety incumbent systems that would be required to retune to the 859-861 MHz portion of the band under the PWC proposal.