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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

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

In the Matter of	)	
	)	
Amendment of the	)	GEN Docket No. 90-314
Commission's Rules to	)	
Establish New Personal	)	
Communications Services	)	RM-7140, RM-7175, RM-7618

TO: The Commission

COMMENTS ON
PETITIONS FOR RECONSIDERATION

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SUMMARY

In making a proper analysis of its Communications Act obligations, the Commission should reconsider its PCS allocation decision and allocate a portion of the spectrum reserve for the development of private advanced communications services. There is a clear and compelling need for a separate allocation of spectrum to accommodate private emerging technology requirements of public service utilities, public safety entities, and core industries that cannot be met by carrier-provided PCS systems.

A reallocation of commercial PCS spectrum in the 2180-2200 MHz band to MSS, another commercial carrier provided service, is not needed and is better suited to meet the spectrum needs of private system operators. Sufficient spectrum has been reserved for MSS. Despite claims of Mobile Satellite interests, the Commission has no obligation to provide spectrum to accommodate <u>all</u> MSS applicants.

The rules on deployment of unlicensed PCS devices should be clarified so that UTAM, Inc. is not delegated authority to determine which devices are "coordinatable." In addition, the Commission should deny UTAM's request for clarification that it may "verify" the correct installation

or relocation of unlicensed PCS devices through administrative procedures and not necessarily technical means. Because it will be impossible for UTAM or vendors of unlicensed PCS equipment to control consumer use or relocation of these devices, the Commission must require manufacturers to incorporate technologies in their products to ensure that they cannot be installed or relocated without frequency coordination.

UTC voices no objection to the requests of various petitioners that the power and/or height limitations imposed on PCS systems be increased so long as this will not increase the risk of interference to incumbent microwave users. UTC agrees with API that the Commission should adopt specific penalties for the creation of interference to microwave users and should require PCS licensees that are causing interference to immediately discontinue operations until the interference problem is resolved.

UTC supports the requests for clarification directed at ensuring that the interference standard being developed by the industry, Bulletin TSB10-F, is granted equal recognition, and may be used as an alternative, to the standard found in Appendix D.

The Commission should clarify that there is no arbitrary limit on the amount of "ancillary fixed" usage a PCS licensee may make of its authorized frequencies, provided minimum mobile service area coverage requirements are met.

Finally, the Commission should adopt its own definitions of PCS service areas to avoid any concern over copyright infringement and to facilitate the PCS coordination and licensing process.

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TO: The Commission

COMMENTS ON
PETITIONS FOR RECONSIDERATION

Pursuant to Section 1.429(f) of the Commission's Rules, the Utilities Telecommunications Council (UTC) hereby submits its comments on several of the petitions for reconsideration of the Second Report and Order in GEN Docket No. 90-314, FCC 93-451, released October 22, 1993.[1/]

UTC submitted its own petition for reconsideration addressing four major areas: (1) spectrum allocations for private, internal emerging technology systems; (2) authorization of unlicensed PCS devices; (3) coordination and licensing of licensed PCS systems; and (4) service area definitions and technical rule corrections. UTC hereby

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[1/] Public Notice of the petitions for reconsideration was given at 58 Fed. Reg. 65595 (December 15, 1993). By Order, DA 93-1575, released December 29, 1993, the time for filing comments was extended to January 3, 1994.

responds to the petitions of other parties regarding these and other issues.

I. THE FCC SHOULD REDESIGNATE SOME PORTION OF THE SPECTRUM RESERVE FOR PRIVATE ADVANCED COMMUNICATIONS SERVICES

UTC fully supports the "petition for reconsideration" filed by the Association of Public-Safety Communications Officials-International, Inc. (APCO) requesting that the Commission reserve a portion of the 2 GHz emerging technologies band for public safety and other privately licensed users of advanced communications services. APCO's request is entirely consistent with and supported by the arguments that UTC raised in its own "petition for reconsideration."[2/] Utilities, public safety/public service entities and core industries have a current internal need for the advanced mobile/portable communications capabilities that carrier provided PCS cannot provide.

As APCO notes, the PCS competitive bidding process, MTA/BTA service territories, and build-out requirements will effectively preclude public safety entities and other

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[2/] UTC Petition For Reconsideration, GEN Docket No. 90-314, filed December 8, 1993.

core private users from the spectrum allocated for PCS in the Second R&O.[3]

Just as APCO argues that spectrum allocations are needed for new public safety emerging telecommunications technologies, such as high-speed and high resolution transmission of fingerprints and mug shots,[4] so too, there is a strong need for utility access to spectrum for the implementation of mobile data communications capabilities enabling the mobile transmission of schematic diagrams and power switching orders, and for the introduction of energy conservation and management technologies.

The vital need for a separate allocation of spectrum for private users as argued by APCO and UTC is evidenced by the recent filing of a "Petition For Rulemaking" by a coalition of associations representing the vast majority of licensees in the Public Safety, Industrial, and Land Transportation Radio Services. The Petition seeks an allocation of 75 MHz of spectrum for the development of an "Advanced Private Communications Service."[5] The Coalition

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[3] APCO, pp. 3-4.

[4] APCO, p. 3.

[5] COPE Petition for Rulemaking, filed December 23, 1993.

of Private Users of Emerging Multimedia Technologies ("COPE") argues that this service would support communications systems designed to meet the unique needs of the private radio user community for advanced wireless imaging and decision processing/remote file access capabilities. COPE's membership represents many of the essential public safety, public service, industrial and transportation entities that require dedicated private communications systems. Specifically, the membership of COPE includes:

American Trucking Associations, Inc.
American Petroleum Institute
Association of American Railroads
Association of Public-Safety
  Communications Officials-International, Inc.
Forest Industries Telecommunications
Industrial Telecommunications Association, Inc.
International Municipal Signal Association and
  and International Association of Fire Chiefs, Inc.
Manufacturers Radio Frequency Advisory Committee, Inc.
National Association of Business and
  Educational Radio, Inc.
Utilities Telecommunications Council

As COPE points out there is a clear and compelling need for a separate allocation of spectrum to accommodate private emerging technology requirements that cannot be met by carrier-provided PCS systems. A reallocation of some portion of the 2 GHz band recently allocated to commercial PCS would help to support the development and growth of dedicated private emerging technology systems to meet the

highly specialized communications needs of vital service providers into the next century.

Further as APCO points out, the Commission's present allocation plan is inconsistent with Congressional mandates that radio services which are necessary for the safety of life and property deserve more consideration in allocating spectrum than those services which are more in the nature of a convenience or a luxury.[6] An allocation of spectrum as proposed by UTC, APCO and COPE is integral to the advancement of major policy initiatives of the Clinton Administration in the areas of crime control, energy conservation and management, emergency response and rescue, health care, pollution control, and improved industrial productivity.

APCO echoes UTC concern that contrary to its specific proposals and the pubic interest, the Commission has allocated virtually all of the 2 GHz "spectrum reserve" to commercial PCS. As APCO notes, what little spectrum remains in the 2 GHz band is either earmarked for Mobile Satellite Service (MSS) or consists of unpaired frequencies with limited potential for alternative use.[7] The FCC's action was taken despite the fact that the comments and the

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[6] APCO, p. 5.

[7] APCO, p. 2.

experimental PCS applications filed indicate that the vast majority of commercial PCS proponents did not even contemplate a PCS allocation of spectrum from the 2100 MHz portion of the emerging technologies band.

In making a proper analysis of its Communications Act obligations, the Commission should reconsider its PCS allocation decision and allocate a portion of the spectrum reserve for the development of private advanced communications services.

II. NO ADDITIONAL SPECTRUM FROM THE 2 GHz BAND SHOULD BE ALLOCATED FOR MOBILE SATELLITE SERVICES

As part of its Second R&O the FCC indicated its intent, consistent with the 1992 World Administrative Radio Conference, to designate 40 MHz of the remaining 2 GHz spectrum to the implementation of MSS, a commercial service that is expected to complement as well as substitute for PCS.[8/]

A number of Mobile Satellite interests have petitioned the FCC asking for reconsideration of the decision. These parties argue that insufficient spectrum has been allocated for the development of MSS. Specifically, these parties oppose the allocation of the 2180-2200 MHz band to

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[8/] Second R&O, para. 63.

terrestrial PCS,[9] claiming that such an allocation is inconsistent with WARC allocations and will make it more difficult to implement commercial MSS domestically.

In addition to the 40 MHz of spectrum from the 2 GHz band that has been tacitly reserved to MSS, there is over 60 MHz of spectrum allocated for MSS domestically in the 1544-1559/1645.5-1660.5 MHz and 1610-1626.5/2483.5-2500 MHz bands. A combined allocation of 100 MHz of spectrum is more than sufficient to implement MSS. The petitioners' real concern appears to be that there should be sufficient spectrum for all of them to enter into the MSS business. For example, TRW states that "there is insufficient spectrum at 1610-1626.5 MHz and 2483.5-2500 MHz to accommodate the MSS systems proposed by all of the current applicants...[10]

These arguments should be rejected. While the FCC's obligation is to ensure that services have sufficient spectrum to viably operate, it has no obligation to accommodate every individual applicant. The arguments of AMSC are particularly noteworthy on this point. It claims that it needs additional 2 GHz spectrum so that it can

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[9] AMSC Subsidiary Corporation (AMSC), COMSAT Corporation (COMSAT), and TRW Inc. (TRW).

[10] TRW, p. 3 (emphasis added).

offer satellite-based PCS, a service that is likely to be in direct competition with the monopoly MSS service that AMSC has been licensed to provide in the 1544-1559/1645.5-1660.5 MHz bands. AMSC's arguments are patently self-serving and against the public interest.[11/]

As stated above, the initial PCS allocation in the FCC's Second R&O does not give proper balance to the spectrum needs of private system operators such as public safety entities, public service utilities and core industries. A reallocation of commercial PCS spectrum to MSS, another commercial carrier provided service, is not needed and would not help to rectify this situation. Accordingly, the Commission should not grant the requests of the MSS community for additional 2 GHz spectrum.[12/]

[11/] Similarly, AMSC's attempt to again raise its argument that the transition plan relocation rules for the 2 GHz band should not apply to MSS systems should be rejected. As UTC noted in response to AMSC's Petition For Reconsideration of the Third Report and Order in ET Docket No. 92-9, AMSC's argument is procedurally defective and should be dismissed. Neither AMSC nor any other party requested reconsideration of the "transition framework" established in the First Report and Order in ET Docket No. 92-9, regarding the application of the transition rules to the upper portion of the 2 GHz band. See UTC Comments on Petitions for Reconsideration, ET Docket No. 92-9, filed November 8, 1993.

[12/] UTC does not oppose the suggestion raised by AMSC and COMSAT regarding the possible use of the 1990-2110 MHz auxiliary broadcast band by MSS.

III. RULES ON DEPLOYMENT OF UNLICENSED PCS DEVICES SHOULD BE CLARIFIED

UTC generally agrees with UTAM, Inc. that the rules on early deployment of unlicensed PCS devices should be clarified. However, UTC disagrees in certain respects with the direction in which the rules should be clarified.

A. The FCC Must Determine Which Devices Are "Coordinatable"

UTAM requests clarification that the FCC will determine, in the equipment authorization process, whether an unlicensed system or device is "coordinatable."[13] As UTC also pointed out in its Petition for Reconsideration,[14] Section 15.307(c) implies that the Commission is delegating authority to UTAM to make this determination:

> An application for certification of a PCS device that is deemed by UTAM, Inc. to be noncoordinatable will not be accepted until the Commission announces that a need for coordination no longer exists.

Requiring UTAM to determine, in the first instance, which devices are "coordinatable" would place UTAM in the awkward position of having to review its own members' technical submissions and determine which of its members' devices could be brought to market. Because it is

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[13] UTAM, pp.6-7.

[14] UTC, p. 13.

unrealistic to expect UTAM to remain unbiased in this process, the FCC should not burden UTAM with this responsibility.

UTC agrees with UTAM that its participation in the equipment certification process should be limited to bringing to the FCC's attention instances where an unlicensed PCS system or device submitted for coordination either lacks the requisite FCC equipment authorization or cannot be coordinated without an unacceptable risk of harmful interference.[15/]

B. Equipment Installations or Relocations Must Be Verified Through Technological Means

UTAM has also requested clarification of its responsibilities for verifying that a coordinatable system or device is not activated until its location is verified. Section 15.307(d) provides as follows:

> A coordinatable PCS device is required to incorporate measures to assure that it cannot be activated until installation at its authorized location is verified by UTAM, Inc.

UTAM requests the Commission to "clarify" that this section only requires that manufacturers establish "procedures" (such as use of licensed installers) or comparable assurance mechanisms to prevent premature activation, as

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[15/] UTAM, p. 7.

opposed to incorporation within the device of a location verification capability.

UTC disagrees with UTAM that Section 15.307(d) should be read to permit "procedures" to be used in place of technological means to verify installation at the authorized location. First, the plain wording of the rule states that the device is to incorporate measures to assure that it "cannot be activated" until the installation at its authorized location is verified by UTAM, Inc. "Procedures" will not assure that a device cannot be activated; only technological means will prevent activation.

Second, use of "procedures," such as requiring manufacturers to use licensed installers, will not prevent users or unlicensed technicians from relocating the equipment. Contract terms and equipment labels notwithstanding, once an unlicensed device is sold in the marketplace, the vendor loses all control over its operation. Further, allowing UTAM to establish the criteria for appropriate verification procedures will create the same problems as allowing UTAM to make determinations of "coordinatability."

Third, paragraph 91 of the Second R&O states that the verification "procedures" will be reviewed by the

Commission during the equipment authorization process. This clearly indicates that the Commission expects that the devices themselves will incorporate technologies to permit remote verification, not merely that the vendor will, for example, employ licensed installers.

As UTC pointed out in its petition for reconsideration, the early deployment of unlicensed devices creates a logistical problem because there are no licensees against whom the FCC can enforce installation and relocation restrictions. Identification of an unlicensed interference source will also be extremely difficult. Therefore, it is imperative that the equipment itself be designed such that consumers will not be able to inadvertently cause interference to the critical licensed services operating in this band.

Given the options of prohibiting the deployment of unlicensed devices until the band is cleared of microwave users, or allowing early deployment on a limited, frequency-coordinated basis, the Commission has authorized the limited sale and deployment of unlicensed devices to help "prime the pump" for microwave relocations. However, UTAM should not be permitted to bootstrap onto that limited

authority the ability to authorize deployment of devices which it will not be able to control.[16]

The issue is accountability, and in the case of unlicensed devices, only UTAM and the manufacturers and vendors can be held accountable for the interference potential of these devices. Deployment of "coordinatable" devices prior to band-clearing is primarily for the benefit of the manufacturers, who would otherwise have to underwrite the cost of relocating all fixed microwave systems from the band. It is therefore only fair that manufacturers wanting to sell devices prior to band-clearing incorporate technologies in their products to ensure that they cannot be installed or relocated without frequency coordination. Manufacturers will simply have to decide whether the cost of installing these technologies will be more than offset by having the ability to sell products at an earlier date.

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[16] Because the Commission's Rules do not impose any obligations on manufacturers or vendors to resolve interference complaints, any breach of verification "procedures" would have to be resolved by UTAM. However, it is unclear whether UTAM has, or will have, sufficient financial resources to resolve all complaints of interference or the ability to verify that its members are actually following their "procedures." It would therefore be in UTAM's best interest to support the use of verification technologies.

IV. ANY CHANGE IN PCS POWER/HEIGHT LIMITS MUST INCLUDE APPROPRIATE PROTECTION FOR FIXED MICROWAVE

A number of petitioners argue that the power limit for PCS base stations must be increased from the 100 watt effective isotropic radiated power (EIRP) limit found in new Section 99.231(a) in order to promote the development of PCS.[17] In addition, a few petitioners request that the power limit of PCS mobiles or of portable PCS devices be increased from the limit contained in 90.231(b).[18] Similarly, some petitioners recommend that authorized antenna height limitation be increased for PCS base stations, citing the 300 foot maximum height limit as another unnecessary restriction on the development of PCS.[19]

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[17] See e.g., American Personal Communications (APC), p. 3 (recommending increase to 1000 watts Effective Radiated Power (ERP)); Motorola Inc. (Motorola), p. 7 (1000 watts ERP); MCI Telecommunications Corporation (MCI), p. 7 (1000 watts ERP); Sprint Corporation (Sprint), p. 15 (1600 watts EIRP); Ameritech, p. 2 (1000 watts ERP); US West, Inc. (US West), p. 3 (7950 watts EIRP, 1600 watts EIRP recommended "as a compromise"); Time Warner Telecommunications (TWT), pp. 11-12 (recommending that no limit be placed on maximum power for PCS); PacTel Corporation (PacTel), p. 5 (1500 watts EIRP); Telocator, p. 5 (1000 watts ERP); and Northern Telecom Inc. (Northern Telecom), p. 5 (1000 watts ERP)

[18] See e.g., Telocator, p. 7 (recommending 12 watts ERP limit); MCI, p. 8 (20 watts EIRP);

[19] TWT, p. 13; APC, p. 9.

UTC does not oppose an increase in the power/height limits as long as this increase is accompanied by appropriate protection for fixed microwave users.[20] Increased power/height limits must be accommodated through the coordination process, such as by requiring PCS applicants to coordinate with additional incumbent microwave users. Regardless of the power/height limitations imposed, UTC urges the FCC to strictly implement its interference standard to protect all incumbent microwave users.

UTC supports the American Petroleum Institute's (API) request that the Commission adopt specific penalties to deter creation of objectionable interference to fixed microwave users.[21] Establishment of specific penalties will provide an additional incentive for PCS users to carefully evaluate their operations to ensure that they do not interfere with sensitive incumbent operations.

UTC further supports API's request for clarification that when an incumbent microwave user notifies a PCS licensee that interference is occurring, the PCS licensee

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[20] As stated in UTC's Reply Comments to the Notice of Proposed Rule Making, UTC does have some concern that permitting PCS licensees to use large cells would be inconsistent with the microcell architecture envisioned for commercial PCS. UTC Reply Comments, p. 15.

[21] API, p. 8.

must immediately cease operations until the interference problem has been resolved.[22/] As the Commission is aware, the microwave systems operating in the 2 GHz band provide vital communications to various industries, including utilities. Any interruption to these systems could threaten public safety. Therefore, the Commission should take appropriate steps to minimize the risk of interference.

V. INDUSTRY COORDINATION STANDARDS SHOULD BE ACCORDED EQUAL WEIGHT

UTC joins with numerous parties in commending the Commission for its efforts in establishing the PCS/microwave interference standard in Appendix D of the Second R&O. UTC supports the flexibility provided by the Commission to use either the interference standard found in Appendix D or a standard developed by a recognized authority.

Several petitioners, including the Fixed Point-to-Point Communication Section of the Network Equipment Division of the Telecommunications Industry Association (TIA), Motorola and Alcatel Network Systems, Inc. (Alcatel), have requested that the Commission modify the Second R&O to clarify that interference standard being

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[22/] API, pp. 8-9.

developed by the industry, Bulletin TSB10-F, may be used instead of Appendix D. UTC believes that such clarification is consistent with the intent of the Commission to accord equal weight to both industry standards and Appendix D. Consequently, UTC supports these parties' requests for clarification of this matter.

API recommends that the Commission defer adoption of an interference standard until Bulletin TSB10-F is completed. According to API, the standard in Bulletin TSB10-F will "incorporate the best thinking of the microwave community and the PCS industry..."[23/] At such time as Bulletin TSB10-F is finalized, it might be appropriate to adopt this as the only, or at least as the preferred, method for coordinating PCS facilities with fixed microwave. Because further rulemaking would be required to accomplish this, UTC has no objection to the current rule, which allows use of either Appendix D or an industry standard. However, the Commission must clarify that an industry standard will be given equal recognition to Appendix D.[24/]

[23/] API, p. 6.

[24/] Bell Atlantic has questioned the appropriate fade margins to be applied when coordinating PCS systems against short microwave paths. (Bell Atlantic, Appendix, pp. 13-14). This issue is more appropriately addressed to TIA, which has developed these standards and which is in the process of revising Bulletin TSB10-E. In any event, UTC

(continued...)

VI. MISCELLANEOUS ISSUES

A. Ancillary Fixed Use Should Be Clarified

UTC supports Northern Telecom's request for clarification of the extent to which PCS licensees may provide fixed services on an "ancillary" basis.[25] Because there are no mobile loading requirements, per se, it appears that PCS licensees could offer any amount of fixed service provided mobile service is also available to the relevant percentage of population in the licensee's service area. Given the flexible service definition for PCS, and given the potential for PCS to offer more than just traditional cellular telephone service, UTC supports Northern Telecom's request that PCS licensees be permitted to provide fixed services without separately attempting to measure relative capacity, service offerings, or revenue associated with primary and ancillary service offerings.

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[24] (...continued)
notes that Bell Atlantic's objection to the 35 dB fade margin for digital microwave receivers referenced in Table 4-4A may be misplaced. TIA Bulletin TSB10-E clearly states that the C/I objectives in the tables were derived from typical values, but cautions that "ACTUAL C/I OBJECTIVES FOR A DIGITAL SYSTEM SHOULD BE DETERMINED FROM THE MANUFACTURER-SUPPLIED T/I DATA AND THE ACTUAL FADE MARGIN. BOTH OF THESE CAN VARY OVER A WIDE RANGE." (TIA TSB10-E, pp. 25-26, emphasis in the original). Thus, fade margins are not automatically assumed to be 35 dB, even under the current version of the standard.

[25] Northern Telecom, p.15 n.12.

B. The FCC Should Adopt Its Own Definitions of PCS Licensing Areas

Several parties, including UTC, have requested the Commission to modify the definitions for PCS service areas in such a manner as to remove the potential for Rand McNally to claim copyright infringement by reason of the use of "Basic Trading Areas" (BTAs) and "Major Trading Areas" (MTAs).[26] Killen & Associates argues that small businesses will be hesitant to participate in the bidding process due to concerns over paying royalties to Rand McNally for the use of BTA and MTA information. Telocator points out that incorporation by reference of the 1992 BTA and MTA definitions could lead to practical difficulties if Rand McNally revises these definitions. It also notes that the BTA/MTA service area definitions could be used in other licensing proceedings, and it would be convenient if these definitions were readily accessible in the Rules or in separate FCC releases.

UTC agrees with these petitioners, and urges the Commission to adopt its own definitions of PCS licensing areas. The Commission should encourage broad participation in PCS licensing, and should make information on PCS licensing areas readily available to all potential

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[26] Killen & Associates, Inc., pp. 1-3; Telocator, pp.16-18.

applicants. In addition, this information will be needed by microwave licensees in order to determine which PCS licensee(s) will potentially impact their operations.

Telocator has raised a convincing argument that Rand McNally may not claim copyright protection for facts or ideas, such as the identification of which counties should be grouped with which BTAs or MTAs.[27] While UTC agrees with Telocator's analysis, it is unnecessary, and largely inappropriate, for the Commission to resolve issues of copyright. It is sufficient to note that Rand McNally has claimed copyright in its BTA/MTA definitions and that this claim has already had a chilling effect on the PCS and microwave community. UTC therefore urges the Commission to adopt its own service area definitions, which could be based on any and all relevant demographic information, and to publish these definitions in the Rules.

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[27] Telocator, p.18 n.33.