DOCKET FILE COPY ORIGINAL

FCC MAIL ROOM

Before the
Federal Communications Commission
Washington, D.C. 20554

2000 NOV 28 P 3: 53

In the Matter of	)	
	)	
Reallocation of the 216-220 MHz,	)	ET Docket No. 00-221
1390-1395 MHz, 1427-1429 MHz,	)	RM-9267
1429-1432 MHz, 1432-1435 MHz,	)	RM-9692
1670-1675 MHz, and 2385-2390 MHz	)	RM-9797
Government Transfer Bands	)	RM-9854

RECEIVED

NOTICE OF PROPOSED RULE MAKING

Adopted: November 1, 2000 **Released: November 20, 2000**

Comment date: [30 days from date of publication in the Federal Register]
Reply comment date: [60 days from date of publication in the Federal Register]

By the Commission: Chairman Kennard and Commissioner Furchtgott-Roth issuing separate statements. Commissioners Ness and Tristani issuing a joint statement.

TABLE OF CONTENTS

Paragraph

I. INTRODUCTION 1
II. BACKGROUND 3
III. DISCUSSION 7
A. The 216-220 MHz Band 8
B. The Spectrum at 1.4 GHz 19
1. Spectrum Bands 20
a. The 1390-1395 MHz Band 20
b. The 1427-1429 MHz Band 21
c. The 1429-1432 MHz Band 22
d. The 1432-1435 MHz Band 23
2. Band Plan Options 24
C. The 1670-1675 MHz Band 38
D. The 2385-2390 MHz Band 44
E. Government Operations 51
1. Protection of Incumbent Services 51
2. Relocation of Government Operations 54
a. General 54
b. Incumbent Government Relocation Information. 58
c. Government Operations' Right to Reclaim 64
IV. PROCEDURAL MATTERS 67
A. Initial Regulatory Flexibility Analysis 67
B. Ex Parte Rules - - Permit-But-Disclose Proceeding 68
C. Comments 69
D. Contact Persons 74

V. ORDERING CLAUSES 75
APPENDIX A: PROPOSED RULES
APPENDIX B: INITIAL REGULATORY FLEXIBILITY ANALYSIS

I. INTRODUCTION

1. By this action, we propose to allocate a total of 27 megahertz of spectrum from the 216-220 MHz, 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, 1432-1435 MHz, 1670-1675 MHz, and 2385-2390 MHz bands transferred from Government to non-Government use pursuant to the provisions of the Omnibus Budget Reconciliation Act of 1993 (OBRA-93)[1] and the Balanced Budget Act of 1997 (BBA-97).[2] These seven bands have a variety of continuing Government protection requirements and incumbent Government and non-Government uses. Despite these constraints and the relatively narrow bandwidth contained in each of the bands, we believe that the proposals presented will foster a variety of potential applications in both new and existing services. The transfer of these bands to non-Government use should enable the development of new technologies and services, provide additional spectrum relief for congested private land mobile frequencies, and fulfill our obligation as mandated by Congress to assign this spectrum for non-Government use.

2. This action continues the implementation of our recent *Spectrum Policy Statement*, which, among other things, identified a preliminary allocation plan for this spectrum, and articulated a number of goals for efficient spectrum management.[3] We have received several suggestions for use of this spectrum. The private radio community recommends pairing some of the bands and assigning licenses to band managers, while proposing traditional site-licensed approaches in other bands for use by industrial and public safety operations. Satellite service providers suggest use of a portion of this spectrum for feeder links. Itron, Inc. (Itron) requests additional spectrum for utility telemetry to support automated meter reading. Requests have also been made for spectrum for personal location services. This Notice of Proposed Rule Making (Notice) examines these recommendations and identifies several options for making use of these bands to provide valuable services to the public. We request commenters to evaluate the various proposals considered herein and suggest alternatives that meet the goals identified in the *Spectrum Policy Statement*.

II. BACKGROUND

3. In OBRA-93, the Congress directed the Secretary of Commerce to identify at least 200 megahertz of spectrum used by the Federal Government for transfer to non-Government services.[4] As a result of this requirement, the National Telecommunications and Information Administration (NTIA) identified 235 megahertz of Government spectrum for transfer to non-Government use, including the

[1] Pub. L.103-66, 107 Stat. 312 (1993).

[2] Pub. L.105-33, 111 Stat. 251 (1997).

[3] *Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium, Policy Statement*, 14 FCC Rcd 19,868, at ¶ 21 (1999) ("*Spectrum Policy Statement*"). Implementation of the Spectrum Policy Statement began with the Commission's proceedings regarding the 4.9 GHz band and the 3650-3700 MHz band. See *The 4.9 GHz Band Transferred from Federal Government Use*, WT Docket No. 00-32, *Notice of Proposed Rule Making*, 15 FCC Rcd 4778 (2000); *Amendment of the Commission's Rules with Regard to the 3650-3700 MHz Government Transfer Band*, ET Docket No. 98-237, *Report and Order*, FCC 00-363, Released October 23, 2000, 65 FR 69451, November 17, 2000.

[4] *See* OBRA-93, § 6001(a) (codified at 47 U.S.C. § 923(a)-(b)).

1390-1395 MHz, 1427-1432 MHz, and 1670-1675 MHz bands. OBRA-93 also gave the Commission the authority to resolve cases of mutually exclusive license applications by auctioning spectrum licenses in certain radio services.[5] In BBA-97, the Congress directed the Secretary of Commerce to identify an additional 20 megahertz of spectrum for transfer to non-Government use to be assigned in compliance with Section 309(j) of the Communications Act of 1934, as amended (Communications Act).[6] NTIA identified 20 megahertz of spectrum for transfer, including the 216-220 MHz, 1432-1435 MHz, and 2385-2390 MHz bands.[7] BBA-97 also expanded the Commission's auction authority by amending Section 309(j) of the Communications Act to provide that all mutually exclusive applications for initial licenses or construction permits *shall* be auctioned, except for licensing for public safety radio services and certain other types of broadcast licenses not applicable here.[8] Finally, BBA-97 authorized Federal Government entities to accept payment in cash or kind for vacating spectrum transferred from Government to non-Government use, establishing a relocation regime similar to the Commission's relocation policy for Emerging Technology services, particularly PCS.[9]

4. The Strom Thurmond National Defense Authorization Act for Fiscal Year 1999 (NDAA-99) required that "[a]ny person on whose behalf a Federal entity incurs costs ... shall compensate the Federal entity in advance for such costs. Such compensation may take the form of a cash payment or in-kind compensation."[10] We tentatively interpret this language as making the previously voluntary Government reimbursement for relocation authorized in BBA-97 mandatory. NDAA-99 applies only to the bands transferred to non-Government use under BBA-97, to the 1710-1755 MHz band, and to future actions where commercial users of spectrum are seeking relocation in spectrum or modification in existing spectrum of a Federal Government station, but not to the bands transferred to non-Government use under OBRA-93.[11] Accordingly, the mandatory reimbursement rules apply to the 216-220 MHz,

---

[5] *See id.*, § 6002(a) (codified at 47 U.S.C. § 309(j)). This section gave the Commission the authority to auction licenses in cases where the Commission determines that the principal use of such spectrum will involve, or is reasonably likely to involve, the licensee receiving compensation from subscribers in return for which the licensee--(i) enables those subscribers to receive communications signals that are transmitted utilizing frequencies on which the licensee is licensed to operate; or (ii) enables those subscribers to transmit directly communications signals utilizing frequencies on which the licensee is licensed to operate. These services are generally the commercial radio services.

[6] *See* BBA-97, § 3002(e) (codified at 47 U.S.C. § 923(b)(3)). *See also* 47 U.S.C. § 309(j).

[7] In response the requirements of BBA-97, NTIA also identified the 139-140.5 MHz, 141.5-143 MHz, and 1385-1390 MHz bands. These bands, however, were later withdrawn by Congress due to continuing Government operational needs.

[8] *See id.*, § 3002(a) (codified at 47 U.S.C. §§ 309(f), 397).

[9] *See id.*, § 3002(d) (codified at 47 U.S.C. § 923(g)). *See also Redevelopment of Spectrum to Encourage the Establishment of Services Using New and Innovative Technologies*, ET Docket No. 92-9, *First Report and Order and Third Notice of Proposed Rule Making*, 7 FCC Rcd 6886 (1992); *Second Report and Order*, 8 FCC Rcd 6495 (1993); *Third Report and Order and Memorandum Opinion and Order*, 8 FCC Rcd 6589 (1993); *Memorandum Opinion and Order*, 9 FCC Rcd 1943 (1994); *Second Memorandum Opinion and Order*, 9 FCC Rcd 7797 (1994), *aff'd, Association of Public Safety Communications Officials-International, Inc. v. FCC (APCO v. FCC)*, 76 F.3d 395 (D.C. Cir. 1996). *See also Amendment of the Commission's Rules to Establish New Personal Communications Services*, GEN Docket No. 90-314, *Memorandum Opinion and Order*, 9 FCC Rcd 5947 (1994).

[10] *See* NDAA, Pub. L.105-261, 112 Stat. 1920, § 1064(c)(3) (codified at 47 U.S.C. § 923(c)(3)(B)).

[11] NDAA-99 provides that the mandatory reimbursement rules apply to the 1710-1755 MHz band, which was transferred to non-Government use under OBRA-93, but to no other bands transferred under OBRA-93.

1432-1435 MHz, and 2385-2390 MHz bands.

5. We have received five petitions for rule making from private entities, requesting allocation of one or more of the bands addressed here to various applications. Regionet Wireless License, LLC (Regionet), requests that we reallocate the 218-219 MHz band to the Paging and Radiotelephone service and pair the 218-219 MHz band with the 216-217 MHz band to allow two-way paging and response.[12] The Land Mobile Communications Council (LMCC) requests allocation of the 1390-1395 MHz, 1427-1435 MHz, and 1670-1675 MHz bands, among others, to the Private Mobile Radio Service (PMRS) for use by industrial and public safety licensees.[13] MicroTrax, Inc. (MicroTrax) requests an allocation of 5 MHz from the 1390-1400 MHz, 1427-1432 MHz, 1432-1435 MHz, 1670-1675 MHz, or 2385-2390 MHz bands for a new Personal Location and Monitoring Service (PLMS).[14] Itron requests an upgrade of the secondary allocation to FS and MS (limited to telemetry) to primary status in the 1427-1432 MHz band, in order to enhance the status of utility telemetry.[15] Finally, three licensees in the non-voice, non-geostationary Mobile-Satellite Service (NVNG MSS or "Little LEOs"[16]) request that we allocate the 1390-1393 MHz and 1429-1432 MHz bands to Little LEOs.[17] All of these petitions will be addressed in this proceeding.

6. On November 22, 1999, we released a *Spectrum Policy Statement,* which set forth guiding principles for reallocation of spectrum to encourage the development of telecommunications technology for the new millennium. In the *Spectrum Policy Statement,* we provided a blueprint for the reallocation of approximately 200 megahertz of spectrum including the 27 megahertz addressed in this proceeding, and identified several spectrum management goals, including: (1) maximizing the value of the spectrum, both in terms of utility to the public and value at auction; (2) accommodating incumbent uses in the spectrum which provide valuable service to the public; and (3) fostering competition both within and between services, which will encourage the most economically and technically efficient use of the spectrum.

III. DISCUSSION

7. In the discussion below we consider allocations for each of the seven spectrum bands included in this proceeding. We are not proposing any service rules at this time for these bands because we first need to determine whether new services may be feasible. However, parties that recommend new services should offer suggestions for service rules so that we may evaluate the potential viability of these new services. The record developed in this proceeding will be considered in future proceedings addressing specific service rules for this spectrum. We also note that in a separate proceeding we are evaluating changes to our Section 309(j) auction authority that were enacted in the 1997 Balanced Budget Act. Consistent with any determinations ultimately made in that proceeding, we seek comment

[12] *See* Regionet, *Petition for Rule Making*, RM-9692 (filed Apr. 22, 1998).

[13] *See* LMCC, *Petition for Rule Making*, RM-9267 (filed Jun. 10, 1999)

[14] *See* MicroTrax, *Petition for Rule Making*, RM-9797 (filed Nov. 11, 1999)

[15] *See* Itron, *Petition for Rule Making*, RM-9854 (filed Feb. 29, 2000).

[16] Little LEO operations provide data messaging services on spectrum below 1 GHz. *See* 47 C.F.R. § 25.142.

[17] *See* Final Analysis Communications Services, Inc.; Leo One Worldwide, Inc.; Orbital Communications Corporation (collectively Little LEO licensees), *Petition for Rule Making*. Because this petition was filed recently, and addresses the subject matter of this proceeding, we will waive the requirement of Section 1.403 of our rules, 47 C.F.R. § 1.403, and incorporate this petition into this proceeding.

on whether we should provide for any other specific allocations in these bands (e.g., a designation for public safety radio services as defined in Section 309(j)(2)(A) of the Act).

A. The 216-220 MHz Band

8. The 216-220 MHz band is allocated internationally in Region 2 on a primary basis to the Fixed Service (FS) and the Maritime Mobile Service (MMS) and on a secondary basis to the Radiolocation Service.[18] Domestically, this band is allocated on a primary basis to both the Government and the non-Government MMS. The band is also available on a secondary basis to the Government Radiolocation Service, the Government and non-Government FS, Aeronautical Mobile Service (AMS), Land Mobile Service, and the Low Power Radio Service (LPRS). In addition, footnote US317 allocates the 218-219 MHz segment of this band to Interactive Video and Data Services (IVDS) on a primary basis and footnote NG152 allocates the 219-220 MHz segment to the Amateur Radio Service (Amateur Service) on a secondary basis. The 218-219 MHz segment has been auctioned to the 218-219 MHz Service, also referred to in our rules as IVDS.[19]

9. Regarding actual operations under the above allocations, we note that primary users of the Government allocations in this band include the Armed Forces, the U.S. Geological Survey, and the Departments of Energy, Justice, the Treasury, and the Interior. For example, NTIA has identified nine sites where the U.S. Navy operates its space surveillance (SPASUR) radar system at nine sites in the 216.965-216.995 MHz segment in the South and Southwest. These operations are protected indefinitely from non-Government FS and MS operations by footnote US229.[20] The protection areas are circles with radii of 50-250 kilometers (km). Protected sites vary from thinly populated areas in the desert to major metropolitan areas.[21] A list of protected Government operations is contained in Appendix A.

10. In addition to the 218-219 MHz Service and the Amateur Service, this band supports many other non-government operations. The 217-218 MHz and 219-220 MHz segments are used for the Automated Maritime Telecommunication System (AMTS) along the coastlines and inland waterways of

---

[18] The International Telecommunication Union divides the world into three regions for the purposes of the International Table of Frequency Allocations, North and South America fall within Region 2. *See* 47 C.F.R. § 2.104(b).

[19] *See* 47 C.F.R. § 2.106, n.US317. Licenses in the 218-219 MHz Service were allocated as Metropolitan Statistical Area ("MSA") licenses and Rural Service Area ("RSA") licenses. The Commission awarded MSA licenses by both lottery and auction. Announcing High Bidders for 594 Interactive Video and Data Service (IVDS) Licenses, *Public Notice*, Mimeo No. 44160 (rel. Aug. 2, 1994), *erratum*, *Public Notice*, Mimeo No. 44265 (rel. Aug. 9, 1994). The RSA licenses have not been awarded by auction or lottery. The second auction in this service was postponed on January 29, 1997, in order to give the Commission an opportunity to consider a petition for rulemaking and numerous informal requests of potential bidders and license holders seeking to obtain additional flexibility for the service. Wireless Telecommunications Bureau Postpones February 18, 1997 Auction Date for 981 Interactive Video and Data Service (IVDS) Licenses Report No. AUC-96-13-E (Auction No. 13), DA 97-209, *Public Notice* (rel. January 29, 1997). In the rulemaking proceeding, the Commission modified the regulations governing the licensing of the 218-219 MHz Service. Amendment of Part 95 of the Commission's Rules to Provide Regulatory Flexibility in the 218-219 MHz Service, *Report and Order and Memorandum Opinion and Order*, FCC 99-239, WT Docket No. 98-169, RM-8951, 15 FCC Rcd. 1497, 1499 ¶ 2 (1999) ("*218-219 MHz Order*"). The Commission received several petitions for reconsideration of the *218-219 MHz Order*. Once the Commission has addressed the petitions for reconsideration, the Commission will schedule an auction in this service and initiate normal pre-auction procedures.

[20] *See id.*, n.US229.

[21] *See* NTIA, *Second Spectrum Reallocation Report*, NTIA Special Publication 98-36, § 4, pp. 18-19.

the United States, especially the Mississippi and Ohio Rivers and the coast of the Gulf of Mexico.[22] Footnote US274 and Section 90.259 authorize the entire 216-220 MHz band for FS, AMS and Land Mobile Service on a secondary basis for telemetering and associated telecommand operations, such as gas pipeline data collection and remote monitoring of vehicle performance testing.[23] In addition, footnote US210 provides for tracking and telemetering of scientific data from ocean buoys and wildlife in this band. Authorized uses include airborne wildlife telemetry in the 216.0-216.1 MHz segment.[24] This band also supports LPRS, which is authorized operations in the 216-217 MHz segment under the secondary allocation to non-Government FS and MS in the band and point-to-point network control communications for AMTS. Uses of LPRS include auditory assistance devices, health care aids, law enforcement tracking systems (such as those used to track stolen currency).[25]

11. We note that the 216-220 MHz band was identified for transfer from shared Government and non-Government use to mixed Government and non-Government use pursuant to BBA-97, and therefore licenses in the band must be awarded in accordance with Section 309(j) of the Communications Act. New licensees in the band are required to compensate Government entities in advance for marginal costs incurred in their relocation from the band.[26] The band will become available for non-Government use in January 2002.[27] As we stated in the *Spectrum Policy Statement*, the 216-220 MHz band is already used extensively for non-Government services, which will limit the opportunities for new licensing in the band, even after Government services vacate this spectrum.[28] Any new service allocated on a primary basis in this spectrum will be required to protect existing primary licensees, including AMTS licensees and licensees in the 218-219 MHz Service.[29] In addition, any new operations in the 216-220 MHz band are likely to be constrained by the need to protect TV channel 13, which occupies the subjacent 210-216 MHz band. Protection of television channel 13 was one of the factors we considered in limiting use of this band to low power applications such as LPRS and telemetry on a secondary basis.

12. We are also concerned about the continued viability of the incumbent, non-Government services, particularly LPRS, in the 216-220 MHz band, which, while not authorized on a primary basis, serve important public needs. We established the LPRS in 1996 to advance the use of affordable communications devices by the hearing impaired, thus furthering the goals of the Americans with Disabilities Act of 1990 and the Technology-Related Assistance for Individuals with Disabilities Act

---

[22] In 1997, the Commission adopted rules allowing AMTS licensees to serve fixed and mobile (including hand-held) units operating on land in areas around their stations so long as they give priority to communications from stations operating on the water. *See Amendment Of The Commission's Rules Concerning Maritime Communications*, PR Docket No. 92-257, *Second Report and Order and Second Further Notice of Proposed Rule Making*, 12 FCC Rcd 16949, 69 (1997). The rules for operation on land are codified at 47 C.F.R. § 80.123. Although AMTS also has an allocation in the 216-217 MHz band, these frequencies are not authorized for assignment. *See* 47 C.F.R. § 80.385. This policy was implemented to protect television reception on channel 13, which operates in the 210-216 MHz band.

[23] *See* 47 C.F.R. §§ 2.106, footnote US274 and 90.259.

[24] *See* 47 C.F.R. § 2.106, footnote US210.

[25] *See* 47 C.F.R. § 95.1009.

[26] *See* discussion of relocation of Government operations *infra*.

[27] *See* NTIA, *Second Spectrum Reallocation Report*, NTIA Special Publication 98-36, § 4, at 2.

[28] *See Spectrum Policy Statement*, at ¶ 27

[29] *See id.*, § 3, at 18.

Amendments of 1994.[30] The auditory assistance devices, as well as currency tracking devices authorized under LPRS, provide valuable services to the public. There are over 23 million Americans that are hearing impaired. The assisted listening devices, which operate in this band, are being increasingly relied upon by persons with special auditory needs, particularly in schools by children. LPRS users are licensed by rule, and thus we maintain no records on the number or location of users, which would complicate coordination with new service providers. Ocean buoy and wildlife tracking, as well as being valuable services, complicate the use of the 216-220 MHz band because of their itinerant nature. Finally, we note that telemetry is heavily used in both urban and rural areas.

13. We note that Regionet has filed a *Petition for Rule Making* in which it claims that IVDS (now called the 218-219 MHz Service) licensing in the band has not been successful, and accordingly requests that we reallocate the 218-219 MHz band to the Paging and Radiotelephone Service to permit responses from two-way paging units in the 216-217 MHz band.[31] Regionet believes there is a substantial demand for two-way paging, and that an additional allocation will serve this demand.[32] Regionet suggests that current 218-219 MHz Service licensees be allowed to retain their licenses, and that new Paging and Radiotelephone Service licensees make arrangements with the 218-219 MHz licensees to allow provision of two-way paging.[33]

14. We propose to allocate the 216-220 MHz band generally to FS and MS (except aeronautical mobile) on a primary basis. We further propose to require that any MS licensees that may be licensed in the band use the 216-218 MHz segment for base station transmit and the 218-220 MHz segment for mobile station transmit, in order to minimize the likelihood of interference to television channel 13 reception. As requested by NTIA, we also propose to remove the Wildlife and Ocean Tracking allocation from this band.[34] We request comment on these proposals. The 216-220 MHz band is heavily encumbered by incumbent, non-Government services. Because of the limited Government use of the band, there is relatively little new capacity, which is likely to be made available by vacation of the band by Government operations. Given the significant constraints on additional use of the 216-220 MHz band, however, it is unclear how this band might accommodate additional services and how we might further assign licenses in this spectrum.[35] Accordingly, we invite comment on how we should proceed.

15. We observe that existing licensees operating on a primary basis in the AMTS at 217-218 MHz and 219-220 MHz would be protected against interference from new operations by applying a first-in-time principle, which states that, among services of equal allocation status, the first licensed is

---

[30] *See Amendment of the Commission's Rules Concerning Low Power Radio and Automated Maritime Telecommunications System Operations in the 216-217 MHz Band*, WT Docket No. 96-56, *Report and Order*, 11 FCC Rcd 18,517 (1996).

[31] *See* Regionet Petition, RM-9692, at 1-2. We received no comments on the Regionet petition.

[32] *See id.* at 3-4. In two-way paging, a base station transmitter transmits a signal to selectively activate a certain pager and follows the activation with a message. The pager includes both a receiver and a low power response transmitter, which allows the user to return a response from a standard menu of data messages.

[33] *See id.* at 4-5.

[34] *See* NTIA, *Second Spectrum Reallocation Report*, NTIA Special Publication 98-36, § 3.

[35] The Commission is currently considering using geographic area licensing and auctions to resolve cases of mutually exclusive applications. Decisions in that proceeding may affect the outcome of this proceeding. *See generally Implementation of Sections 309(j) and 337 of the Communications Act of 1934*, WT Docket No. 99-87, *Notice of Proposed Rule Making*, 14 FCC Rcd 5206 (1999).

generally entitled to protection from the later licensed. We note that the Commission recently proposed to auction remaining AMTS licenses in the 217-218 MHz and 219-220 MHz bands.[36] Further, we note that licenses in the 218-219 MHz Service have already been assigned, in part, by auction.[37] We therefore tentatively conclude that it may be inappropriate to allow new, co-primary services in these segments, given the potential to disrupt or limit the operation of the primary licensees in the 216-220 MHz band. We further tentatively conclude that our auction of the 218-219 MHz band, and our proposed auction of the 216-217 MHz and 219-220 MHz bands, satisfy the requirement of BBA-97 that we assign licenses in the 216-220 MHz band in accordance with Section 309(j) of the Communications Act. The completed or proposed auctions cover three megahertz of the four megahertz available in the band, and the remaining megahertz, as well as being used for valuable, secondary services that are licensed by rule, is severely constrained by the need to protect television channel 13 from interference. We also invite comment on our tentative conclusion that we have fulfilled the requirement of BBA-97 to assign licenses in the 216-220 MHz band consistent with Section 309(j) of the Communications Act.

16. We request recommendations as to whether we should limit any additional allocations to FS, which often can coordinate new operations to avoid causing interference to incumbent services. We solicit comment on whether we should elevate the status of telemetry or LPRS to primary status in this band.

17. We request comment on the best way to continue the viability of incumbent, non-Government services in the band, if we were to license new primary services. We seek to avoid any detrimental impact on the many valuable incumbent services operating in this spectrum, including auditory assistance devices, the LPRS, the Amateur Service, and telemetry. We invite comment as to whether any of the existing secondary services operating in this spectrum should be elevated to primary status. We also invite comment on Regionet's proposal to reallocate the 216-217 MHz and 218-219 MHz bands to Paging and Radiotelephone Service, and what effect such an allocation would be likely to have on incumbent services in the 216-217 MHz segment.

18. We are not proposing any service rules at this time for the 216-220 MHz because we first need to determine whether new services may be feasible. However, parties that recommend new services for this spectrum should offer suggestions for service rules so that we may evaluate the potential viability of these new services. For example, parties should describe potential ways new services might be auctioned, including the license areas and size of the spectrum blocks. We note that the only incumbent service in the 216-220 MHz band that has been auctioned by license area is the 218-219 MHz Service, which was licensed by Metropolitan Statistical Areas (MSAs) and Rural Service Areas (RSAs). There are 306 MSAs and 428 RSAs in the United States. The remaining services in the band are licensed by site. AMTS stations tend to be licensed along the Mississippi and Ohio Rivers and along the coast of the Gulf of Mexico. The secondary services in the band are either site licensed, nomadic, or licensed by rule to permit operations anywhere in the United States. We request views as to whether it may be feasible to license spectrum in the 216-220 MHz band by MSAs and RSAs. Commenters are requested to suggest alternative service areas for the band, and to justify their suggestions. We also request recommendations for technical rules, such as transmitter output power and out-of-band emissions, which may be appropriate for any new services. We also solicit comment as to the Commission rule parts under which any new services might be regulated. If we were to elevate telemetry or LPRS in the 216-220 MHz to primary status in the band, would it be appropriate to continue to regulate these services

[36] *See Amendment of the Commission's Rules Concerning Maritime Communications*, PR Docket No. 92-257, *Fourth Report and Order and Third Notice of Proposed Rule Making*, FCC 00-370, Released November 16, 2000, ¶ 10, 75 (2000).

[37] *See supra* n.20.

under the relevant portions of Part 90 or Part 95, respectively?[38] We request comment on what other service rules, such as eligibility, license requirements, and other rules, will best ensure the most efficient service to the public. Finally, we request comment on whether we should license this spectrum through competitive bidding, including to band managers as eligible auction participants, as we describe in the next section.

B. The Spectrum at 1.4 GHz

19. We address the 13 megahertz of spectrum in the four segments at 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, and 1432-1435 MHz bands collectively as the "1.4 GHz spectrum." In the *Spectrum Policy Statement*, the Commission raised the possibility of providing ten megahertz of spectrum in the 1.4 GHz range for a new Land Mobile Communications Service, in order to address the need of the private land mobile community for additional spectrum.[39] Several options for band pairing or allocation of multiple bands in this spectrum have been presented to us. We believe that it may be possible to combine some of these bands to maximize the potential services that can be provided to the public. We again note that the 1390-1395 MHz, 1427-1429 MHz, and 1429-1432 MHz bands were transferred from Government use pursuant to OBRA-93, and therefore new entrants in the band will not be required to compensate Government entities for relocation or modification of their facilities.

1. Spectrum Bands

a. The 1390-1395 MHz Band

20. The 1390-1395 MHz band is allocated internationally in Region 2 on a primary basis to the Radiolocation Service, and on a secondary basis to the Space Research (passive) and Earth-exploration Satellite (passive) Services. Domestically, this band is allocated on a primary basis to the Government Radiolocation Service and on a secondary basis to Government FS and MS.[40] The Government uses this band for military radars, air traffic control, military test range telemetry links, and tactical radio relays. NTIA states that 17 military radar sites in the band will require protection until the year 2009. These protection areas are circles with radii of 80 km. The protection areas are scattered around the continental United States and Alaska, and range from sparsely populated desert areas to major metropolitan areas such as the Washington, D.C.-Baltimore, MD area.[41] These sites are listed in Appendix A. The band is also used for radio astronomy, and footnote US311 to the Table of Frequency allocations requires that every practicable effort be made to avoid the assignment of frequencies in the band in several geographic areas. There are no current non-government operations in this spectrum.

b. The 1427-1429 MHz Band

21. The 1427-1429 MHz band is a segment of the 1427-1432 MHz band, which is allocated internationally in Region 2 on a primary basis to FS and MS (except aeronautical mobile), and to the Space Operation Service (Earth-to-space or uplink). Domestically, the 1427-1429 MHz band is allocated on a primary basis to Government FS and MS (except aeronautical mobile), and to Government and non-

[38] *See id.*, §§ 90.259, 95.1001 *et seq.*

[39] *See Spectrum Policy Statement*, at ¶ 24.

[40] *See* 47 C.F.R. § 2.106.

[41] *See* NTIA, *Spectrum Reallocation Report*, NTIA Special Publication 95-32, § 4, at 2-4 and Table 4-2.

Government Space Operation applications.[42] The 1427-1429 MHz band is also allocated on a secondary basis to non-Government FS and MS, and is limited to telemetering and telecommand applications.[43] The Government uses this band for military tactical radio relay communications and military test range aeronautical telemetry and telecommand. NTIA states that military airborne operations at 14 sites will require protection until the year 2004.[44] These protection areas are circles with radii of 70-160 km. The protection areas are scattered around the continental United States and Alaska, and range from sparsely populated desert areas to major metropolitan areas such as the Washington, D.C.-Baltimore, MD area. These sites are listed in Appendix A. The non-Government use of this spectrum is for utility telemetry.[45]

c. The 1429-1432 MHz Band

22. The 1429-1432 MHz band is allocated internationally on a primary basis in Region 2 to FS and MS. Domestically, the 1429-1432 MHz band is allocated on a primary basis to Government FS and MS, and on a secondary basis for non-Government FS and MS, limited to telemetering and telecommand.[46] The Government uses this band for military tactical radio relay communications and military test range aeronautical telemetry and telecommand. NTIA states that military airborne operations at 14 sites will require protection until the year 2004. These protection areas are circles with radii of 70-160 km. The protection areas are scattered around the continental United States and Alaska, and range from sparsely populated desert areas to major metropolitan areas such as the Washington, D.C.-Baltimore, MD area.[47] These sites are listed in Appendix A. On June 12, 2000, the Commission allocated the 1429-1432 MHz band to the Wireless Medical Telemetry Service (WMTS).[48] WMTS is a low power service in which equipment is used in hospitals and health care facilities to transmit patient measurement data, such as pulse and respiration rates to a nearby receiver, permitting greater patient mobility and increased comfort.

d. The 1432-1435 MHz Band

23. The 1432-1435 MHz band is allocated internationally on a primary basis in Region 2 to FS and MS. Domestically, the 1432-1435 MHz band is allocated on a primary basis to Government FS and MS, and on a secondary basis for non-Government FS and Land Mobile Service, limited to telemetering and telecommand.[49] This band is also used for passive search for signals of extraterrestrial origin.[50] NTIA states that military airborne operations will continue at 23 sites indefinitely. These protection areas are circles with radii of 3-160 km. The protection areas are scattered around the

[42] We note that the Space Operations Service allocation in this band is currently unused because of the need to protect passive Earth Exploration-Satellite operations in the subjacent 1400-1427 MHz band.

[43] *See* 47 C.F.R. § 2.106.

[44] *See* NTIA, *Spectrum Reallocation Report*, NTIA Special Publication 95-32, § 4, at 4-6 and Table 4-2.

[45] *See id.*, § 5, at3.

[46] *See* 47 C.F.R. § 2.106.

[47] *See* NTIA, *Spectrum Reallocation Report*, NTIA Special Publication 95-32, § 4, pp. 4-6 and Table 4-2.

[48] *See Amendment of Parts 2 and 95 of the Commission's Rules to Create a Wireless Medical Telemetry Service (WMTS)*, ET Docket 99-255, PR Docket 92-235, *Report and Order*, FCC 00-211, released June 12, 2000.

[49] *See* 47 C.F.R. § 2.106.

[50] *See id.*, footnote S5.341.

continental United States and Alaska, and range from sparsely populated desert areas to major metropolitan areas such as the Washington, D.C.-Baltimore, MD area.[51] These sites are listed in Appendix A.[52] This band was transferred to non-Government use pursuant to BBA-97, and therefore licenses must be awarded in accordance with Section 309(j) of the Communications Act. In addition, new licensees must compensate Government entities in advance for marginal costs incurred in relocating their facilities from the band.[53]

2. Band Plan Options

24. As stated above, we have received several proposals for use of spectrum at 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, and 1432-1435 MHz. These proposals are discussed below, along with additional options for consideration.

25. Itron filed a petition for rule making requesting an upgrade of the secondary FS and MS telemetry allocation in the 1427-1429 MHz and 1429-1432 MHz bands to primary status. Itron manufactures and operates automated meter reading devices for use by utilities to improve the speed and reduce the costs of billing. These devices also facilitate competition in the provision of energy services by allowing proper allocation of billing among multiple service providers. Itron was granted a license in 1993 to provide telemetry service in the 1427-1429 MHz band. The license was renewed in 1999 and expanded to cover the band 1427-1432 MHz. Itron asserts that a primary allocation for telemetry operations is essential to the service it provides. Itron states that it has already installed several million of its devices, largely in the 1427-1429 MHz band.[54] When the Commission allocated the 1429-1432 MHz band for medical telemetry devices, it noted that Itron and the American Hospital Association (AHA) filed a joint letter stating that they are optimistic that a basis for sharing the 1427-1432 MHz band between WMTS and utility telemetry can be developed. AHA and Itron stated that the WMTS allocation should not be delayed, provided that the Commission expeditiously seek comment concerning a sharing arrangement and a co-primary allocation for both WMTS and utility telemetry in the 1427-1432 MHz band.[55] Several utility companies support Itron's recommendation that spectrum at 1427-1432 MHz should be allocated to utility telemetry.[56] MicroTrax and Little LEO licensees oppose Itron's recommendation, stating that while they have no objection to Itron's recommendation in principle, they do not believe that Itron has adequately justified the need for five megahertz of spectrum or that this band has unique attributes required by automated meter reading equipment.[57] MicroTrax recommends relying on an auction to determine use of the band, while the Little LEO licensees request that a portion of the band be allocated instead to Little LEO feeder links.

---

[51] *See* NTIA, *Spectrum Reallocation Report*, NTIA Special Publication 95-32, § 4, at 4-6 and Table 4-2.

[52] *See* NTIA, *Second Spectrum Reallocation Report*, NTIA Special Publication 98-36, § 3, at 33-34.

[53] *See id.*, § 4, p.3.

[54] *See* Itron Petition at 4-7.

[55] *See* Letter from M. Taylor, AHA, and R. Fairbanks, Itron to M. Salas, Federal Communications Commission, May 31, 2000. *See also WMTS Report and Order*, ET Docket No. 99-255, PR Docket No. 92-235, FCC 00-211, released June 12, 2000.

[56] *See Generally* Comments and Reply Comments filed on behalf of United Telecom Council; EnSite, LP; Reliant Energy Minnegasco; and Southern Connecticut Gas Company.

[57] *See Generally* Comments and Reply Comments filed on behalf of Little LEO licensees; and MicroTrax.

26. LMCC suggests that we pair the 1390-1395 MHz band with the 1427-1429 MHz and 1432-1435 MHz bands to provide two-way, frequency division PMRS communications. Such a paired band could be used for FS or MS applications, including private mobile radios or fixed microwave, or could be used for commercial service, providing voice or data service or both. Within this allocation, LMCC recommends that the 1390-1392 MHz segment be paired with the 1427-1429 MHz band, and licensed on a site-specific basis in the same manner as existing PMRS services. Under this licensing method, eligible applicants would be licensed to use one or more channels in a specified location or area and for a specific frequency or set of frequencies. LMCC recommends that the 1392-1395 MHz segment be paired with the 1432-1435 MHz band, and licensed to band managers by competitive bidding. Band managers would be a class of Commission licensee that may engage in the business of making spectrum available for use by others through private, written contracts.[58] LMCC's recommendation for additional spectrum is widely supported by private mobile radio users.[59] Itron opposes the allocation of spectrum in the 1427-1432 MHz band to PMRS.[60]

27. In its petition, MicroTrax has requested that we allocate five megahertz of contiguous spectrum in any of several bands, including the 1390-1395 MHz, 1427-1432 MHz, or 1432-1435 MHz bands, on an unpaired basis as potential bands for its suggested PLMS.[61] MicroTrax's recommended PLMS is a one-way service wherein small transmitters can be carried by people or attached to objects. Such a service would be useful for tracking the location of people, valuables, cargo in transit, and other objects. The transmitters would emit a low power spread spectrum signal that would be picked up by a network of receivers to determine the location of the transmitters. MicroTrax's petition is supported by several commenters.[62]

28. Three Little LEO licensees have also filed a petition for rule making requesting that we allocate the 1390-1393 MHz band to Little LEO feeder uplinks, and the 1429-1432 MHz band to Little LEO feeder downlinks, on a primary basis.[63] Little LEO feeder links connect the satellites to information

---

[58] We have previously used the Band Manager concept in allocating the "guard bands" of the 746-806 MHz commercial bands for auction to Guard Band Managers. In that proceeding, we defined a Guard Band Manager as a class of commercial licensee that has the ability to use the licensed spectrum itself, to lease access to portions of its band to other eligible users, or to provide service in its spectrum to eligible users. Spectrum use by the end users is by private contract between the Guard Band Manager and the end user. We also required the Guard Band Manager's contracts with end users to include provisions that apply to existing licenses, such as the end users' agreement to comply with our rules, accept our oversight and enforcement, and cooperate with any investigation or inquiry that we or the Guard Band Manager may conduct. *See Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules (700 MHz Proceeding)*, WT Docket No. 99-168, *Second Report and Order*, 15 FCC Rcd 5299, ¶¶ 25-51 (2000).

[59] *See, e.g.,* Comments filed in RM-9267 by Industrial Telecommunications Assn, Inc.; Taxicab and Livery Communications Council; UTC, the Telecommunications Assn.; Motorola, Inc.; Brandon Communications, Inc.; and GKL Construction Company.

[60] *See* Itron Comment in RM-9267.

[61] *See* MicroTrax Petition at 2.

[62] *See* Comments of Curtis Protective Services, Inc.; BI, Inc. in RM-9797. *See also* Comments of AeroAstro, Inc. and AHA in RM-9797 (supporting the concept of rapid allocation of the 1.4 GHz spectrum).

[63] *See* Little LEO licensees, *Petition for Rule Making*, filed August 16, 2000. This petition also requests that we allocate the 1429-1432 MHz band on a primary basis for Little LEO feeder downlinks. Because this petition was filed recently, and addresses the subject matter of this proceeding, we will consider the petition here, rather than request comments by public notice.

or communication hubs at a small number of earth stations, as opposed to service links, by which customer communications are conducted. The Little LEO licensees state that their request reflects several years of work aimed at achieving a worldwide allocation for Little LEO feeder links at 1390-1393 MHz and 1429-1432 MHz.[64] Further, the Little LEO licensees assert that current allocations for feeder link spectrum for Little LEOs is insufficient to allow them to provide necessary services.[65] The Little LEO licensees also contend that utility telemetry can be accommodated in other bands or on a secondary basis, and that Little LEOs feeder links is the most efficient and effective use of the spectrum.[66] We note, however, that NTIA stated that, for the protection of incumbent Government operations in an adjacent band, reallocation of the 1427-1432 MHz band for airborne and space-to-Earth applications must be avoided.[67]

29. Finally, we are also aware that ArrayComm, Inc. (ArrayComm) has developed antenna systems, which use spatial diversity, multiple access (SDMA). SDMA antenna systems use software-driven phased array antennas to provide communications with mobile units in beam widths of as little as three degrees. Compared to a standard four or six sector antenna, this allows high frequency reuse factors. ArrayComm states that its "smart antennas" and SDMA technology provide the best frequency reuse with time division duplexing (TDD) systems, wherein on a single frequency a portion of each second is used for the base station to communicate with the mobile station, and another portion of the same second is used for the mobile station to reply. TDD technology may be used for fixed and mobile services and does not require paired spectrum. Such systems are different from frequency division duplexing systems, in which the base station and the mobile station use different frequencies to transmit, and therefore require paired spectrum. ArrayComm states that TDD systems using smart antennas could provide competitive mobile services using relatively small, unpaired bands. ArrayComm's technology generally requires a contiguous frequency band of five megahertz of spectrum for its service. ArrayComm has informally expressed interest in the 1.4 GHz spectrum, as well as other bands.[68]

30. We note that there is insufficient spectrum available to accommodate all of the petitions and requests before the Commission. Our objective is to ensure that the available spectrum is put to the best use and that this spectrum is allocated consistent with the spectrum management principles set forth in our *Spectrum Policy Statement*. We invite comment on how we should allocate the 1.4 GHz spectrum to achieve this goal, given the requests that have been submitted. At the same time, as with the 216-220 MHz band, we are concerned about the continuing viability of incumbents in the 1.4 GHz band. To facilitate meaningful comment, we have developed several options for the allocation of this the 1.4 GHz spectrum that are discussed below and summarized in Table 1.

31. Option 1: Under this option, the 1390-1395 MHz, 1427-1429 MHz and 1432-1435 MHz bands would be allocated to FS and MS on a primary basis. Further, we would pair the 1390-1392 MHz band with the 1427-1429 MHz band for traditional site licensing, and the 1392-1395 MHz band with the

[64] While there is no current international allocation for satellite services in the 1.4 GHz spectrum that could accommodate Little LEO feeder links, the 1997 World Radiocommunication Conference (WRC-97) resolved to study the feasibility of Little LEO feeder links in this spectrum. WRC-2000 agreed to put consideration of a Little LEOs feeder link allocation on the agenda for the 2003 World Radiocommunication Conference.

[65] *See* Little LEO licensees, *Petition for Rule Making*, at 5.

[66] *See id.*, at 10.

[67] *See* NTIA, *Spectrum Allocation Final Report*, NTIA Special Publication 95-32, § 4, at 6.

[68] *See* Letter from L. Kolsky, Steptoe & Johnson, LLP (counsel for ArrayComm, Inc.) to S. White, Federal Communications Commission, Sep. 6, 2000.

1432-1435 MHz band for licensing through competitive bidding. Eligible bidders could be CMRS providers, PMRS licensees, or any other qualified applicant, including Band Managers. Applicants for site licensing would be required to demonstrate that they had special needs that could not be addressed by acquiring spectrum by other means. We would also elevate the status of utility telemetry to co-primary in the 1429-1432 MHz band. We believe this option has a number of benefits. This approach satisfies the requirement to auction the 1432-1435 MHz band and provides companion spectrum at 1392-1395 MHz for paired or two-way operations. Further, this option would provide spectrum for the new Land Mobile Communications Service that we identified in the *Spectrum Policy Statement* as a possible solution for meeting the specialized communications requirements of businesses.[69] In addition, under this option utility meter reading would continue to have access to the 1427-1432 MHz band, and could have access to additional spectrum in the 1390-1392 MHz band on the basis of site licensing, or access to the 1392-1395 MHz and 1432-1435 MHz bands. On the other hand, this option provides no spectrum allocation for Little LEOs. This option also forecloses the type of service recommended by MicroTrax, AeroAstro, or ArrayComm, but we expect to be able to accommodate the recommendations of these parties in other spectrum. We invite comment on this option.

32. Option 2: We could also allocate the 1427-1429 MHz on a primary basis exclusively for telemetry operations, and allow utility telemetry operations to share the 1429-1432 MHz band on a co-primary basis with the medical telemetry service. Further, under this option we could allocate the 1392-1395/1432-1435 MHz segment for licensing by competitive bidding, including Band Managers as potential licensees, as recommended by LMCC. The 1390-1392 MHz band would be allocated for fixed and mobile services on an unpaired basis. This option would satisfy Itron's request and LMCC's request in part. On the other hand, this option would make no provision for Little LEOs, and could limit excessive amounts of spectrum to telemetry only, as opposed to more general PMRS use. As in Option 1 above, we invite comment on the viability of sharing between utility and medical telemetry operations in the 1429-1432 MHz band on a co-primary basis. In particular, while we may allow utility telemetry operations on a co-primary basis in this spectrum, we invite comment as to whether it may be necessary to preclude such operations in the vicinity of medical facilities to avoid any potential interference to medical devices used for critical care of patients. We request comment on this option.

33. Option 3: As a third option, we could allocate the 1390-1392 MHz and 1420-1432 MHz bands for use by Little LEOs and PMRS on a co-primary basis.[70] Potential interference to Little LEO uplink spectrum at 1390-1392 MHz could be avoided by careful siting of the relatively few Little LEO gateway earth stations in sparsely populated areas of the United States, where the need for PMRS spectrum is less pressing. Potential interference in the Little LEO downlink spectrum at 1430-1432 MHz could be avoided by establishing power flux density limits on Little LEO downlinks that would allow sharing with PMRS. As recognized in Resolution 127 adopted at WRC 2000, spurious and out-of-band emissions from Little Leo systems may have the potential to cause interference to extremely sensitive radio astronomy operations in the 1420-1427 MHz band. Resolution 127 also notes that various techniques including low-power transmitter levels, choice of modulation, symbol shaping, use of guard bands, coordination with co-channel and adjacent-channel services, output filtering and band limiting

[69] *See Spectrum Policy Statement* at ¶ 24.

[70] *See, e.g., Ex Parte* Presentation of Final Analysis Communication Services, Inc., filed October 2, 2000 (Final Analysis believes a domestic allocation of 2 MHz at 1430-1432 would be sufficient to accommodate its needs in the United States for additional downlink feeder link spectrum, would permit shifting the WMTS allocation to 1427-1430, and would further remove NVNG MSS from radioastronomy services operating in the 1400-1427 MHz band).

filters may be used to mitigate the effects of interference to acceptable threshold levels.[71] We seek comment on whether these measures combined with the 3 MHz separation included in this option provide adequate protection to radio astronomy operations.

34. As in the foregoing options, we could allocate the 1392-1395 MHz and 1432-1435 MHz bands on a paired basis for a general auction. Under this option we could elevate the secondary allocation for utility telemetry in the 1427-1430 MHz band to primary status, while shifting the allocation for WMTS from 1429-1432 MHz to 1427-1430 MHz, on a co-primary basis with utility telemetry. As previously noted Itron and AHA indicated that they are optimistic that a basis for sharing between WMTS and utility telemetry can be developed in this band.[72] This option would satisfy part of the request of the Little LEOs licensees for six megahertz of feeder link spectrum, as well as the request of LMCC for PMRS spectrum. Itron's request for co-primary status for utility telemetry would be partially satisfied by a co-primary allocation in three megahertz with WMTS. Utility telemetry would also have access to both the co-primary PMRS/Little LEOs spectrum and the auctioned spectrum, for a total of 13 megahertz of spectrum available for utility telemetry. We invite comment on the feasibility of sharing between utility telemetry and WMTS in the 1427-1430 MHz bands, and between Little LEOs and PMRS in the 1390-1392 MHz and 1430-1432 MHz bands. We ask whether 4 megahertz will provide adequate spectrum to permit expansion of capacity as requested by the Little LEOs. This option is a compromise between the LMCC, Little LEO Licensees, and Itron petitions.

[71] *See Final Acts of the 1997 World Radiocommunications Conference*, Resolution 127.

[72] *See* Letter from M. Taylor, AHA, and R. Fairbanks, Itron to M. Salas, Federal Communications Commission, May 31, 2000.

TABLE 1: SUMMARY OF 1.4 GHz BAND PLAN OPTIONS

Band (MHz)	1390-1392	1392-1395	1427-1429	1429-1432	1432-1435 (Auction Required)
Current Allocation	GOV'T RADIOLOCATION GOV'T FS & MS		GOV'T FS & MS Gov't & non-Gov't SPACE OPS	Gov't FS & MS non-Gov't fs & lms (telemetry)	
				WMTS	...
Itron Proposal	...	...	Upgrade non-Gov't FS & MS (TELEMETRY) to PRIMARY		...
LMCC Proposal	NON-GOV'T FS & MS (PMRS)	NON-GOV'T FS & MS (PMRS)	NON-GOV'T FS & MS (PMRS)	...	NON-GOV'T FS & MS (PMRS)
	Pair with 1427-1429 (site license)	Pair with 1432-1435 (Band Mgr)	Pair with 1390-1392 (site license)	...	Pair with 1392-1395 (Band Mgr)
Microtrax Proposal	5 MHz Contiguous PLMS				
Little Leo Proposal	1390-1393 MHz MSS FEEDER LINKS (UPLINK)	...	...	MSS FEEDER LINKS (DOWNLINK)	...
Option 1	NON-GOV'T FS & MS (PMRS)	NON-GOV'T FS & MS (PMRS)	NON-GOV'T FS & MS (PMRS)	Upgrade non-Gov't TELEMETRY to CO-PRIMARY with WMTS	NON-GOV'T FS & MS (PMRS)
	Pair with 1427-1429 (site license)	Pair with 1432-1435 (Band Mgr)	Pair with 1390-1392 (site license)		Pair with 1392-1395 (Band Mgr)
Option 2	NON-GOV'T FS & MS (Unpaired)	NON-GOV'T FS & MS (PMRS)	Upgrade non-Gov't FS & MS (TELEMETRY) to PRIMARY	Upgrade non-Gov't TELEMETRY to CO-PRIMARY with WMTS	NON-GOV'T FS & MS (PMRS)
		Pair with 1432-1435 (Band Mgr)			Pair with 1392-1395 (Band Mgr)
Option 3	MSS FEEDER UPLINKS	NON-GOV'T FS & MS (PMRS)	1427-1430 MHz Upgrade non-Gov't TELEMETRY to CO-PRIMARY with WMTS	MSS FEEDER DOWNLINKS	NON-GOV'T FS & MS (PMRS)
	NON-GOV'T FS & MS (PMRS)	Pair with 1432-1435 (Band Mgr)		NON-GOV'T FS & MS (PMRS)	Pair with 1392-1395 (Band Mgr)

35. We are aware that the options presented above do not accommodate the requests of Microtrax or ArrayComm for spectrum. We believe, however, that these requests are better addressed in the 1670-1675 MHz and 2385-2390 MHz bands below. We request comment on these options, and on any other possible allocation schemes for the 1.4 GHz bands. We also request comment on whether uses have been identified for the currently unused non-Government Space Operations allocation, given the need to protect the passive services in the subjacent 1400-1427 MHz band, and any actions taken in this proceeding. Alternatively, should we remove this allocation from the U.S. Table of Frequency Allocations?

36. Any recommended allocation schemes should take several factors into account. For example, we note that the 1432-1435 MHz segment must be assigned in accordance with Section 309(j) of the Communications Act. We tentatively conclude that there would be benefit in allocating an additional three megahertz of spectrum with which this spectrum could be paired. We believe that, to the extent possible we should ensure that the market determines the most appropriate use of this spectrum. In this regard, we are not inclined to allocate spectrum for particular kinds of services unless there is a clear and compelling public interest in doing so. Parties making specific proposals should provide justifications of those proposals in terms of maximizing the utility of these bands to new services. Parties also should take into account incumbent uses of this spectrum and the adjacent bands. For example, we observe that Government operations will continue in many locations well into the future.

37. Parties advocating specific services for this spectrum are also encouraged to submit specific suggestions with regard to service rules to govern these services. We solicit comment on ways spectrum for services might be auctioned, including the license areas and spectrum blocks. We also request recommendations for technical rules, such as power and out-of-band emissions limits, which may be appropriate for any new services. In cases where commenters advocate allocating additional spectrum for current services, we seek comment on whether we should adopt new rules for these bands, or simply extend the current rules to apply to the 1.4 GHz spectrum. We also solicit comment as to the Commission rule parts under which any new services might be regulated. We request comment on what other service rules, such as, *inter alia*, eligibility and license requirements, we should adopt for services in the 1.4 GHz spectrum.

C. The 1670-1675 MHz Band

38. Internationally, the 1670-1675 MHz band is allocated on a primary basis in Region 2 to FS and MS, as well as to Meteorological Aids and the Meteorological-Satellite Service. Domestically, the band is allocated on a primary basis to Government and non-Government Meteorological Aids and the Meteorological-Satellite Service (space-to-Earth or downlink).[73] This band is also used for the passive search for signals of extraterrestrial origin.[74] NTIA states that two meteorological-satellite earth stations, one at Wallop's Island, VA, and one at Fairbanks, AK, will require protection indefinitely.[75] This band was transferred to non-Government use pursuant to OBRA-93, and therefore new entrants in the band will not be required to reimburse Government facilities for relocation.[76]

39. In allocating this band, we must consider the need to protect extremely sensitive radio

[73] *See* 47 C.F.R. § 2.106.

[74] *See id.*, n.S5.341.

[75] *See* NTIA, *Spectrum Reallocation Report*, NTIA Special Publication 95-32, § 4, pp. 6-8 and Table 4-2.

[76] *See id.*, § 5, p.3.

astronomy receivers in the subjacent 1660-1670 MHz band, as well as the need to protect meteorological-satellite earth stations at the Wallop's Island and Fairbanks sites. For these reasons, this band will not be allocated to any airborne or space-to-Earth applications. LMCC has identified the band as a candidate for PMRS.[77] MicroTrax has also identified the band as very desirable for its suggested PLMS.[78]

40. In comments on MicroTrax's petition, AeroAstro introduces its Satellite Enabled Notification System (SENS), which will also locate small objects at relatively low cost. SENS is a one-way messaging service that enables users to transmit short messages for near-real-time receipt via the Internet. Like MicroTrax's PLMS, SENS will allow the location and tracking of people and objects, and the 1670-1675 MHz band is a potential band for the service.[79] Both MicroTrax's and AeroAstro's plans for this band appear to be compatible with protection of Government sites and radio astronomy operations. Both parties are confident of their ability to design their suggested systems to avoid causing interference to the Wallop's Island or Fairbanks sites. Both parties also point out that their systems would also be of sufficiently low power that the likelihood of interference to radio astronomy operations in the subjacent 1660-1670 MHz band would be minimized.

41. In addition to these plans, we note that a five-megahertz band of unpaired spectrum could be useful for service providers who would operate two-way private or commercial communications systems using TDD. As we noted above, such a system is advocated by ArrayComm, and could be implemented in an unpaired band of five megahertz.

42. We propose to allocate the band to FS and MS (except aeronautical mobile), and to adopt technical rules that make the band usable for a number of potential services, including MicroTrax's PLMS, AeroAstro's SENS, two-way service based on ArrayComm's TDD technology, and other fixed and mobile services applications. We believe that an auction of this spectrum may be the best way to ensure that it is assigned to the best value use that is consistent with the protection of co-channel Government and adjacent-channel radio astronomy operations.

43. As in the case of the bands discussed above, the service rules we will adopt to regulate operations in the 1660-1675 MHz band will depend on the allocation we adopt for the band. Commenters are requested to recommend technical rules, with particular attention to protection of radio astronomy operations in the adjacent 1650-1670 MHz band. Commenters should specify what power limits they believe would protect Government and radio astronomy operations, along with measures they would recommend to provide the needed protection. We solicit comment on license areas and spectrum blocks. We also solicit comment as to the Commission rule part or parts under which new services in this band should be regulated, and on other service rules for operations in the band.

D. The 2385-2390 MHz Band

44. The 2385-2390 MHz band is allocated internationally in Region 2 on a primary basis to FS, MS, and the Radiolocation Service and on a secondary basis to the Amateur Service.[80] Domestically, the band is allocated to Government and non-Government MS limited to aeronautical telemetry, and the

[77] *See* LMCC Petition at 31.

[78] *See* MicroTrax Petition at 2-3.

[79] *See* AeroAstro Comments in RM-9797 at 6-8.

[80] *See* 47 C.F.R. § 2.106

Government Radiolocation Service on a primary basis.[81] The band is allocated to the Government FS on a secondary basis.[82] The Government uses the band for aeronautical flight test telemetry and for scientific observations. NTIA states that Government operations in the band will require protection at 17 sites until the year 2007. This band will become available for non-Government use in January, 2005.[83] These sites are specified in Appendix A. This band was transferred to non-Government use pursuant to BBA-97, and therefore licenses must be awarded in accordance with Section 309(j) of the Communications Act, and new licensees must compensate Government entities in advance for marginal costs incurred in relocating their facilities from the band.[84]

45. New licensees will need to protect grandfathered Government sites from interference in the 2385-2390 MHz band. NTIA also notes that commercial receiver and transmitter standards must be established to reduce the potential for mutual interference with airborne systems operating in the adjacent band.[85] The Commission has generally refrained from imposing receiver standards, preferring to let market forces determine equipment specifications. We seek comment on NTIA's determination that receiver and transmitter standards are required. We also request comment on whether non-Government aeronautical telemetry for flight testing of piloted and remotely or automatically controlled aircraft, missiles, or other components thereof, exist outside of the 17 sites identified by NTIA.

46. While the 2385-2390 MHz band is allocated on a primary basis for both Government and non-Government aeronautical telemetry, we are uncertain of how much of this band is used for aeronautical telemetry, and of how many licensees use this service. We seek comment on the use of this band for aeronautical telemetry, and how such use may be preserved as new services enter the band. Commenters are invited to address the possibility of moving aeronautical telemetry to another spectrum band, reducing its status to secondary, or providing protection for telemetry in limited areas of the United States.

47. We propose to allocate the 2385-2390 MHz band to FS and MS generally, and allow flexible use of the band, within the technical rules we adopt. We request comment on this proposal, especially on whether we should allocate this band more narrowly. We note that MicroTrax has identified the 2385-2390 MHz band as a candidate for its suggested PLMS.

48. We seek comment on service and auction rules for the 2385-2390 MHz band. Commenters are requested to provide recommendations on power limits, out-of-band emission limits, and other technical rules. We also solicit comment on service rules governing licensing, service areas, permissible communications, and what part of our rules should govern the band. Finally, we request comment on any other service rules that commenters think appropriate for regulating services in the band. We request that commenters explain how their proposed rules will maximize efficiency of use of the band.

49. In addition to the various proposals above, we propose to effect the transfer of the 27 megahertz of Government spectrum identified in this proceeding by deleting the Government allocations

[81] *See id.*, footnotes US276, G2.

[82] *See* 47 C.F.R. § 2.106.

[83] *See* NTIA, *Second Spectrum Reallocation Report*, NTIA Special Publication 98-36, § 3, at 46-49 and Table 3-6.

[84] *See id.*, § 4, at 3.

[85] *See id.*, § 3, at 47.

from the Table of Frequency Allocations in coordination with NTIA. We propose to add footnotes to the Table of Frequency Allocations, noting that the bands addressed here will remain allocated to Government operations until the dates that the various bands will be transferred. NTIA has also advised the Commission of consequential changes to certain Government footnotes. These proposed changes are contained in Appendix A. We request comment on whether this is the appropriate method for reflecting the reallocations proposed in this proceeding.

50. In the allocation and service rule proposals for all of the bands addressed in this Notice, We specifically seek comment from Indian Tribal governments. As detailed in the *Tribal Government Policy Statement*, adopted earlier this year, the Commission is committed to (1) working with Indian tribes on a government-to-government basis to ensure that Indian tribes have adequate access to communications services, and (2) consulting with Tribal governments prior to implementing any regulatory action or policy that will significantly affect tribal governments, their land, and resources.[86] We believe the proposals set forth in this *Notice* have the potential to foster the development and, ultimately, the deployment of new technologies and services to many communities, including tribal communities. In keeping with the principles of the *Tribal Government Policy Statement*, we welcome the opportunity to consult with tribal governments on the issues raised by this *Notice*, and we seek comment both from tribal governments and other interested parties on the potential for the spectrum proposals set forth herein to serve the communications needs of tribal communities.

E. Government Operations

1. Protection of Incumbent Services

51. As we noted above, certain Government operations in the bands addressed in this proceeding must be protected for periods of years or indefinitely within specified radii of operations. A complete list of Government operations that must be protected is contained in Appendix A. Within the protection zones established by NTIA as a condition of reallocation for each band, any non-Federal Government station will need to be coordinated with NTIA's Frequency Assignment Subcommittee ("FAS").

52. The Commission handles the coordination between Government and non-Government entities in shared use bands. When an application for a station license is filed in a geographic area where such coordination is required, the Commission's licensing system automatically identifies the application as requiring coordination with the Government. The relevant technical and other data are then sent to the NTIA FAS for comment. If no objections are received within a specified time period, the Commission generally grants the application if it is otherwise acceptable. The NTIA FAS may deny the request in order to protect incumbent services in the geographic area. This approach works well when a service is licensed on a site-by-site basis. However, here we are considering licensing some or all of these bands on a wide-area basis. Nevertheless, for bands in which the Federal Government will continue to maintain systems within protected areas, licensees will be required to submit technical data to the Commission for each individual site.

53. In another proceeding reallocating government spectrum, we proposed that licensees planning to construct facilities within a protection zone be required to submit data to the Commission to

[86] Statement of Policy on Establishing a Government-to-Government Relationship with Indian Tribes, FCC 00-207 (rel. June 23, 2000) (*Tribal Government Policy Statement*).

allow coordination of their facilities.[87] For each site requiring prior coordination, the licensee would be required to notify the Government facility within the coordination zone, via the Universal Licensing System ("ULS"), of each proposed new facility that it planned to construct, providing technical data including latitude, longitude, station type, frequency range, antenna height, power, and types of emissions. Licensees would not be permitted to operate such facilities within the coordination zone until obtain a response from the Commission indicating that there are no objections from the Government. We seek comment on using this same proposed coordination proposal for the bands addressed here. We request comment on this proposal or alternate procedures that provide the best method for ensuring protection for these Government services when new services begin operations. One alternative could be to establish power limits that would provide the necessary protection even when mobile units were within the protection areas. New service providers could develop "stay-away" beacons that could serve to cease operation of mobile units when they travel into protection areas. Or for certain types of services, particularly fixed services, a simple prohibition on operating within the protection areas could suffice. Commenters are invited to suggest solutions on these and any other options they may devise. Perhaps coordination would be sufficient to allow new non-Government operations to share spectrum with Government operations. Commenters are specifically requested to address protection of Government services in each of the bands at issue here, as we doubt that a single solution will be the best method for ensuring maximum flexibility and utility of the bands, while at the same time providing the necessary protection for Government operations.

2. Relocation of Government Operations

a. General

54. In addition to Government operations that will need to be protected from interference from new non-Government operations, some Government operations in the bands at issue in this proceeding will be relocated to clear spectrum for new services.

55. In BBA-97, Congress established a relocation policy for Government spectrum users similar to the relocation policy established by the Commission in the *Emerging Technologies* proceeding for PCS and other Emerging Technologies (ET) spectrum.[88] The Commission's policy, in broad outline, required ET licensees to protect incumbents from interference, but also allowed ET licensees to negotiate voluntary relocation agreements with incumbent spectrum users, or alternatively to request involuntary relocation of such incumbents, provided that the ET licensee agreed to guarantee payment of all of the incumbent's relocation expenses and provide "comparable" facilities at the relocation frequencies.[89] BBA-97 established a similar mechanism whereby new licensees were required to protect incumbent Government operations until the scheduled availability dates of the bands, but could negotiate earlier voluntary relocation agreements with Federal Government spectrum users, or could request involuntary

---

[87] *See Amendment of the Commission's Rules with Regard to the 3650-3700 MHz Government Transfer Band*, ET Docket No, 98-237, *Notice of Proposed Rulemaking and Order*, 14 FCC Rcd 1295 (1999).

[88] *See Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies (Emerging Technologies)*, ET Docket No. 92-9, *First Report and Order and Third Notice of Proposed Rule Making*, 7 FCC Rcd 6886 (1992); *Second Report and Order*, 8 FCC Rcd 6495(1993); *Third Report and Order and Memorandum Opinion and Order*, 8 FCC Rcd 6589 (1993); *Memorandum Opinion and Order*, 9 FCC Rcd 1943 (1994); *Second Memorandum Opinion and Order*, 9 FCC Rcd 7797 (1994), aff'd, APCO v. FCC, 76 F.3d 395 (D.C. Cir. 1996).

[89] *See Emerging Technologies First Report and Order and Third Notice of Proposed Rule Making*, 7 FCC Rcd 6886, ¶ 24.

relocation of such users by meeting certain conditions. Specifically, BBA-97 stated that new licensees seeking to relocate Federal Government stations from bands transferred pursuant to BBA-97 from Government use to mixed Government and non-Government use or exclusive non-Government use could submit a petition for such relocation to NTIA. NTIA was instructed to limit or terminate the Government station's operating license within 6 months after receiving the petition if the following requirements were met: (1) the licensee seeking relocation of the Government station has guaranteed to pay all relocation costs incurred by the Government entity, including all engineering, equipment, site acquisition and construction, and regulatory fee costs; (2) all activities necessary for implementing the relocation have been completed, including construction of replacement facilities and obtaining new frequencies for use by the relocated Government station where the Government station is not relocating to other exclusive Government spectrum; (3) any necessary replacement facilities, equipment modifications, or other changes have been implemented and tested to ensure that the Government station is able to accomplish its purposes; and (4) NTIA has determined that the proposed use of the spectrum frequency band to which the Government entity will relocate its operations is consistent with international agreements and with United States national security and public safety interests, and suitable for the technical characteristics of the band and consistent with other uses of the band. Pursuant to BBA-97, if within one year after the relocation, the Federal entity demonstrates to the Commission that the new facilities or spectrum are not comparable to the facilities or spectrum from which the Federal Government station was relocated, the new licensee shall take reasonable steps to remedy any defects or pay the Government entity for the expenses incurred in returning the Government station to the spectrum from which such station was relocated.[90]

56. In 1999, Congress passed NDAA-99, which significantly changed relocation law and policy with respect to certain spectrum transferred from Government to non-Government use. Specifically, NDAA-99 provides for mandatory rather than permissive reimbursement of Government spectrum users in spectrum identified for transfer in response to BBA-97, the 1710-1755 MHz band, as well as reimbursement of Government spectrum users when future actions lead to the relocation of a Federal Government station. The statute provides that any Government entity on such spectrum that proposes to relocate itself, shall notify NTIA of the marginal costs anticipated to be incurred in relocation or modifications necessary to accommodate prospective non-Government licensees. NTIA is directed in turn to notify the Commission of such costs before the auction concerned, and the Commission must then notify potential bidders prior to the auction of the estimated relocation or modification costs based on the geographic area covered by the proposed licenses. Further, NDAA-99 required any new licensee benefiting from Government station relocation to compensate the Government entity in advance for relocation or modification costs. Such compensation may take the form of a cash payment or in-kind compensation.[91] Because NDAA-99 applies only to spectrum identified for reallocation pursuant to BBA-97, it applies in this proceeding only to the 216-220 MHz, 1432-1435 MHz, and 2385-2390 MHz bands, and not to the 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, and 1670-1675 MHz bands, which were reallocated pursuant to OBRA-93.

57. In general, the above statutes confer authority on NTIA and the Commission to write rules governing relocation for new licensees seeking to relocate Government entities.[92] This proceeding

[90] *See* BBA-97, § 3002(d) (codified at 47 U.S.C. § 923(g)(2)).

[91] *See* NDAA-99, § 1064(c)(2) (codified at 47 U.S.C. § 923(g)(1)).

[92] Specifically the statutory language states that:

> IMPLEMENTATION PROCEDURES. -- The NTIA and the Commission shall develop procedures for the implementation of this paragraph, which procedures shall include a process for

(continued....)

presents the Commission's proposed relocation procedures and has been coordinated with NTIA. NTIA plans to conduct a rulemaking proceeding in the near future regarding relocation rules for Government incumbents. We intend to make recommendations to NTIA on the proposed rules for relocation of Government incumbents, and will work jointly to establish an overall relocation policy that will ensure a smooth transition of the bands at issue in this proceeding from Government to non-Government or mixed use. We further propose to release a public notice when NTIA releases the proposed relocation rules for Government incumbents, in order to maximize the awareness of Commission licensees and potential licensees to the proposed rules. Finally, we propose to cross-reference the relocation rules in the rules we adopt as a result of this proceeding. We seek comment on these proposals and how best to provide for a rapid, equitable relocation of Government incumbents. We also inquire whether there are other steps that we can take to make Commission licensees and potential licensees active partners in developing relocation policies that are transparent, efficient, and fair.

b. Incumbent Government Relocation Information.

58. As discussed above, the NDAA-99 requires that any Federal entity proposing to relocate shall notify the NTIA, which in turn shall notify the Commission, before the auction concerned of the marginal costs anticipated to be associated with such relocation or with modifications necessary to accommodate prospective licensees. The Commission in turn shall notify potential bidders of the estimated relocation or modification costs based on the geographic area covered by the proposed licenses before the auction.[93] The NDAA-99 also requires that any person on whose behalf a Federal entity incurs costs shall compensate the Federal entity either through cash payment or in-kind compensation in advance of such costs.[94]

59. We make proposals below for how best to carry out these statutory requirements. Recognizing important National Security concerns, separate procedures are proposed for unclassified and classified or sensitive Government facilities. We request comment on these proposals. Specifically, we seek comment on what relocation information is necessary for the FCC to hold a viable auction and for potential bidders to formulate bidding strategies. Commenters are invited to suggest additional information or information formats that would be of benefit to them in determining their bidding strategies. Commenters should explain how their suggestions provide the information necessary for bidders to plan their strategies and expenditures.

60. *Unclassified Government Facilities:* With respect to these requirements, we propose that NTIA provide us the following information for unclassified Government facilitates for each spectrum block in each license area:

(1) List of Government facilities.

(2) Government agency operating each facility.

(3) Location of each facility.

(4) General type of operation and equipment (*e.g.*, fixed microwave, tactical mobile radio, *etc.*).

(Continued from previous page)

resolving any differences that arise regarding estimates of relocation or modification costs under this paragraph. NDAA-99, § 1064(c)(3) (codified at 47 U.S.C. § 923(g)(1)(E)).

[93] *See* NTIA Organization Act, Section 113 (g) (1) (A).

[94] *See* NTIA Organization Act, Section 113 (g) (1) (B).

(5) Whether the facility can be retuned, modified, or must be relocated.

(6) Estimated marginal cost of retuning, modification, or relocation.

(7) Whether the facility overlaps two or more license areas or spectrum blocks.

(8) Total Costs of Relocation (Cap).

61. We propose to provide this information to potential bidders by public notice in advance of each auction, where possible at the same time that we notify potential bidders of the deadline for filing short form applications, and otherwise as soon as possible after receipt of this information from NTIA.[95] The foregoing information would be provided only with respect to unclassified Government facilities about which information has been released into the public domain.

62. *Classified Government Facilities*: As with all matters involving spectrum allocated to government use, this proceeding has been the subject to coordination with NTIA and the Interdepartment Radio Advisory Committee ("IRAC").[96] During the IRAC coordination process, NTIA informed the Commission in staff discussions that separate procedures will likely be required for classified data and sensitive Government stations.[97] Final procedures governing the release of classified and sensitive data will be addressed in a proceeding conducted by NTIA.[98]

63. Recognizing the need to safeguard national security and meet the obligations of our statutory requirements[99], we seek comment on the minimum amount of relocation information for classified and sensitive facilities necessary for the FCC to hold a viable auction and for potential bidders to formulate bidding strategies. One option would be for NTIA to provide a maximum total cost amount for relocating, retuning, or modifying all classified and sensitive systems to potential bidders. This cost figure would be broken down by license service area and spectrum block for the cost of relocating, retuning, or modifying all such systems consistent with the NDAA statutory language and national security concerns. We could ask NTIA to provide different data that could be made available at different stages of the auctions. For example, we could request that total cost could be provided to potential bidders, while winning bidders or their designees could obtain appropriate security clearances to obtain

[95] *See* 47 C.F.R. § 1.2105(a).

[96] *See* 47 CFR §1.1204(z)(5) of the Commission's rules on shared jurisdiction. NTIA and the FCC share jurisdiction over spectrum. See 47 USC, §§ 301-303, 305, and 902. NTIA chairs the Interdepartment Radio Advisory Committee (IRAC) which is an interagency committee of Federal radio frequency managers that advises the executive branch on the Federal Government's use of the spectrum.

[97] Classified Government stations are those whose existence or missions are classified in accordance with Executive Order 12356, April 2, 1982. Sensitive Government stations are stations whose operations or technical parameters are not releasable to the public under the Freedom of Information Act or other relevant law or regulation. Law enforcement stations that are exempt from disclosure under the Freedom of Information Act are an example of sensitive stations.

[98] *See* ¶ 57.

[99] *See* ¶ 58.

more detailed equipment specific data.[100] Given national security concerns, in some cases it may not be possible to release any information other than a total cost for the relocation, retuning or modification of the systems at issue.

c. Government Operations' Right to Reclaim

64. BBA-97 provides that, if within one year after relocation, a Government entity demonstrates to the Commission that its new facilities are not comparable to the facilities or spectrum from which it was relocated, the new licensee must take reasonable steps to remedy any defects of the new facilities, or must pay the Government entity for costs incurred to relocate back to its original facilities or frequencies.[101] In accordance with the provisions of BBA-97, we propose to require any new licensee that has relocated a Government facility to either remedy any defects of the new facilities, or pay to relocate the Government facility back to its original facilities or frequencies in any case where a Government entity's new facilities are not comparable. We propose to use our existing rules as a basis for defining comparable facilities of communications systems. Thus, we propose to define comparable facilities of communications systems for purposes of BBA-97 by the following three factors:

(1) *Throughput* - Communications throughput is the amount of information transferred within a system in a given amount of time. If analog facilities are being replaced with analog, comparable facilities provide an equivalent number of 4 kHz voice channels. If digital facilities are being replaced with digital, comparable facilities provide equivalent data loading bits per second (bps).
(2) *Reliability* - System reliability is the degree to which information is transferred accurately within a system. Comparable facilities provide reliability equal to the overall reliability of the [relocated] system. For digital systems, reliability is measured by the percent of time the bit error rate (BER) exceeds a desired value, and for analog or digital voice transmission, it is measured by the percent of time that audio signal quality meets an established threshold. If an analog system is replaced with a digital system, only the resulting frequency response, harmonic distortion, signal-to-noise and its reliability will be considered in determining comparable reliability.
(3) *Operating Costs* - Operating costs are the cost to operate and maintain the Government system. New licensees would compensate Government entities for any increased recurring costs associated with the replacement facilities (*e.g.*, additional rental payments, and increased utility fees) for five years after relocation. New licensees could satisfy this obligation by making a lump-sum payment based on present value using current interest rates. Additionally, the maintenance costs to the Government entity must be equivalent to the pre-relocation system in order for the replacement system to be comparable.[102]

65. Some of the Government systems occupying the bands addressed here are specialized or non-communications systems, such as radar systems. In these cases, our comparability criteria may not be appropriate measures for Government stations required to relocate. Operational capability (ability to perform the intended mission functions) may have to be addressed. For example, to measure comparability for radar systems it may be more accurate to consider target detection probabilities. Radar

[100] On January 6, 1993, the President signed Executive Order 12829, establishing the National Industrial Security Program, which establishes procedures for safeguarding Federal Government classified information that is released to, among others, licensees of the Federal Government.

[101] *See* BBA-97, § 3002(d) (codified at 47 U.S.C. § 923(g)(3)).

[102] *See* 47 C.F.R. § 101.75(b).

systems comparability is measured in terms of bandwidth and target resolution. Radar systems also require optimal frequency bands to perform certain functions. For example surveillance functions are preferred at low frequencies and weapon control at higher frequencies. In such cases, we intend to use performance-based criteria in judging comparability, and we request comment on what criteria would be appropriate for evaluating comparability for these Government systems.

66. We propose to require Government entities to demonstrate that their new facilities or spectrum are not comparable to their former facilities or spectrum in one or more of the respects defined above. Once the Government entity has made such a demonstration, we propose to order the new licensee to take reasonable steps to remedy the defects or compensate the Government entity for expenses incurred in returning the Government facility back to its original facilities or spectrum. We request comment on all aspects of this proposal, especially on whether we should consider any other criteria for comparable facilities or modify the proposed criteria.

IV. PROCEDURAL MATTERS

A. Initial Regulatory Flexibility Analysis

67. As required by Section 603 of the Regulatory Flexibility Act, 5 U.S.C. § 603, the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the expected impact on small entities of the proposals suggested in this document. The IRFA is set forth in Appendix B. Written public comments are requested on the IRFA. These comments must be filed in accordance with the same filing deadlines as comments filed in this *Notice of Proposed Rule Making ("Notice")*, but they must have a separate and distinct heading designating them as responses to the IRFA. The Commission's Consumer Information Bureau, Reference Information Center, SHALL SEND a copy of this *Notice*, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration in accordance with Section 603(a) of the Regulatory Flexibility Act, 5 U.S.C. § 603(a).

B. *Ex Parte* Rules - - Permit-But-Disclose Proceeding

68. This is a permit-but-disclose notice and comment rule making proceeding. *Ex parte* presentations are permitted, except during the Sunshine Agenda period, provided they are disclosed as provided in the Commission's rules. *See generally* 47 C.F.R. §§ 1.1202, 1.1203, and 1.2306(a).

C. Comments

69. Pursuant to Sections 1.415 and 1.419 of the Commission's rules, 47 C.F.R. §§ 1.415 and 1.419, interested parties may file comments on or before [**30 days from date of publication in the Federal Register**] and reply comments on or before [**60 days from date of publication in the Federal Register**]. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS), http://www.fcc.gov/e-file/ecfs.html, or by filing paper copies. *See Electronic Filing of Documents in Rulemaking Proceedings*, 63 Fed. Reg. 23,121 (1998).

70. Comments filed through the ECFS can be sent as an electronic file via the Internet to http://www.fcc.gov/e-file/ecfs.html. Generally, only one copy of an electronic submission must be filed. If multiple docket or rule making numbers appear in the caption of this proceeding, however, commenters must transmit one electronic copy of the comments to each docket or rule making number referenced in the caption. In completing the transmittal screen, commenters should include their full name, Postal Service mailing address, and the applicable docket or rule making number. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions for e-mail comments, commenters should send an e-mail to ecfs@fcc.gov, and should including the following words in the

body of the message, "get form <your e-mail address." A sample form and directions will be sent in reply.

71. Parties who choose to file by paper must file an original and four copies of each filing. If more than one docket or rule making number appear in the caption of this proceeding, commenters must submit two additional copies for each additional docket or rule making number. All filings must be sent to the Commission's Secretary, Magalie Roman Salas, Office of the Secretary, Federal Communications Commission, 445 12th Street, S.W., TW-A325, Washington, D.C. 20554. Comments and reply comments will be available for public inspection during regular business hours in the FCC Reference Center of the Federal Communications Commission, Room TW-A306, 445 12th Street, S.W., Washington, D.C. 20554.

72. Parties who choose to file by paper should also submit their comments on diskette. Such a submission should be on a 3.5-inch diskette formatted in an IBM compatible format using Microsoft Word or compatible software. The diskette should be accompanied by a cover letter and should be submitted in "read only" mode. The diskette should be clearly labeled with the commenter's name, proceeding (including the lead docket number, type of pleading (comment or reply comment), date of submission, and the name of the electronic file on the diskette. The label should also include the following phrase "Disk Copy – Not an Original." Each diskette should contain only party's pleading, preferably in a single electronic file. In addition, commenters must send diskette copies to the Commission's copy contractor, International Transcription Service, Inc., 1231 20th Street, NW., Washington, D.C. 20037.

73. Alternative formats (computer diskette, large print, audio cassette and Braille) are available to persons with disabilities by contacting Martha Contee at (202) 418-0260, TTY (202) 418-2555, or via e-mail to mcontee@fcc.gov. This Notice of Proposed Rule Making can also be downloaded at http://www.fcc.gov/oet.

D. Contact Persons

74. For further information concerning this proceeding, contact Tom Mooring at 202/418-2450, tmooring@fcc.gov, Office of Engineering and Technology.

V. ORDERING CLAUSES

75. Accordingly, IT IS ORDERED that pursuant to Sections 4(i), 7(a), 303(c), 303(f), 303(g), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154(i), 157(a), 303(c), 303(f), 303(g), and 303(r), the NOTICE OF PROPOSED RULE MAKING is hereby ADOPTED.

76. IT IS FURTHER ORDERED that the Commission's Consumer Information Bureau, Reference Information Center, SHALL SEND a copy of this NOTICE OF PROPOSED RULE MAKING, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Magalie Roman Salas

Magalie Roman Salas
Secretary

APPENDIX A: PROPOSED RULES

Parts 2 and 90 of title 47 of the Code of Federal Regulations are proposed to be amended as follows:

PART 2 -- FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS

1. The authority citation for Part 2 continues to read as follows:

Authority: 47 U.S.C. 154, 302a, 303, and 336, unless otherwise noted.

2. Amend Section 2.106, the Table of Frequency Allocations, as follows:

a. Revise pages 23, 31, 42, 43, 47, 50, and 51.

b. Revise footnotes US210, US229, US276, US311, and US352; remove footnotes US274 and US317; and add footnotes USxxx, USyyy, and USzzz.

c. Revise footnotes G2, G27, G120, and G114 and remove footnote G123.

The additions and revisions read as follows:

§ 2.106 Table of Frequency Allocations.

* * * * *

International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
See previous page for 30.01-37.5 MHz			33-34	33-34 FIXED LAND MOBILE NG124	Private Land Mobile (90)
			34-35 FIXED MOBILE	34-35	
			35-36	35-36 FIXED LAND MOBILE	Public Mobile (22) Private Land Mobile (90)
			36-37 FIXED MOBILE US220	36-37 US220	
			37-37.5	37-37.5 LAND MOBILE NG124	Private Land Mobile (90)
37.5-38.25 FIXED MOBILE Radio astronomy			37.5-38 Radio astronomy S5.149	37.5-38 LAND MOBILE Radio astronomy S5.149 NG59 NG124	
			38-38.25 FIXED MOBILE RADIO ASTRONOMY S5.149 US81	38-38.25 RADIO ASTRONOMY S5.149 US81	
S5.149					
38.25-39.986 FIXED MOBILE			38.25-39 FIXED MOBILE	38.25-39	
			39-40	39-40 LAND MOBILE NG124	Private Land Mobile (90)
39.986-40.02 FIXED MOBILE Space research			40-42 FIXED MOBILE	40-40.98	ISM Equipment (18) Private Land Mobile (90)

International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
See previous page for 156.8375-174 MHz			162.0125-173.2 FIXED MOBILE S5.226 US8 US11 US13 US216 US223 US300 US312 G5	162.0125-173.2 S5.226 US8 US11 US13 US216 US223 US300 US312	Auxiliary Broadcasting (74) Private Land Mobile (90)
			173.2-173.4	173.2-173.4 FIXED Land mobile	Private Land Mobile (90)
			173.4-174 FIXED MOBILE G5	173.4-174	
174-223 BROADCASTING	174-216 BROADCASTING Fixed Mobile S5.234	174-223 FIXED MOBILE BROADCASTING	174-216	174-216 BROADCASTING NG115 NG128 NG149	Broadcast Radio (TV) (73) Auxiliary Broadcasting (74)
	216-220 FIXED MARITIME MOBILE Radiolocation S5.241 S5.242		216-220 US229	216-220 FIXED MOBILE except aeronautical mobile US229 NG152	Maritime (80) Private Land Mobile (90) Personal Radio (95) Amateur (97)
	220-225 AMATEUR FIXED MOBILE Radiolocation S5.241		220-222 FIXED LAND MOBILE Radiolocation S5.241 G2 US335	220-222 FIXED LAND MOBILE US335	Private Land Mobile (90)
S5.235 S5.237 S5.243		S5.233 S5.238 S5.240 S5.245	222-225 Radiolocation S5.241 G2	222-225 AMATEUR	Amateur (97)

1300-1350 AERONAUTICAL RADIONAVIGATION S5.337 Radiolocation S5.149		1300-1350 AERONAUTICAL RADIO-NAVIGATION S5.337 Radiolocation G2 S5.149	1300-1350 AERONAUTICAL RADIO-NAVIGATION S5.337 S5.149	Aviation (87)
1350-1400 FIXED MOBILE RADIOLOCATION S5.149 S5.338 S5.339	1350-1400 RADIOLOCATION S5.149 S5.334 S5.339	1350-1390 FIXED MOBILE RADIOLOCATION G2 S5.149 S5.334 S5.339 US311 G27 G114	1350-1390 S5.149 S5.334 S5.339 US311	
		1390-1395 S5.149 S5.339 US311 US351	1390-1395 FIXED MOBILE except aeronautical mobile S5.149 S5.339 US311 US351	
		1395-1400 LAND MOBILE US350 S5.149 US5.339 US311 US351	1395-1400 LAND MOBILE US350 S5.149 US5.339 US311 US351	Personal (95)
1400-1427 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) S5.340 S5.341		1400-1427 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY US74 SPACE RESEARCH (passive) S5.341 US246		
1427-1429 SPACE OPERATION (Earth-to-space) FIXED MOBILE except aeronautical mobile S5.341		1427-1429 S5.341 US352	1427-1429 SPACE OPERATION (Earth-to-space) FIXED MOBILE except aeronautical mobile S5.341 US352	Private Land Mobile (90)

International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
1429-1452 FIXED MOBILE except aeronautical Mobile S5.341 S5.342	1429-1452 FIXED MOBILE S5.343 S5.341		1429-1432 LAND MOBILE US350 S5.341 US352	1429-1432 LAND MOBILE US350 S5.341 US352	Private Land Mobile (90) Personal (95)
			1432-1435 S5.341 USxxx	1432-1435 FIXED MOBILE S5.341 USxxx	Private Land Mobile (90)
1452-1492 FIXED MOBILE except aeronautical Mobile BROADCASTING S5.345 S5.347 BROADCASTING-SATELLITE S5.345 S5.347 S5.341 S5.342	1452-1492 FIXED MOBILE S5.343 BROADCASTING S5.345 S5.347 BROADCASTING-SATELLITE S5.345 S5.347 S5.341 S5.344		1435-1525 MOBILE (aeronautical telemetry) S5.341 US78		Aviation (87)
1492-1525 FIXED MOBILE except aeronautical Mobile S5.341 S5.342	1492-1525 FIXED MOBILE S5.343 MOBILE-SATELLITE (space-to-Earth) S5.348A S5.341 S5.344 S5.348	1492-1525 FIXED MOBILE S5.341 S5.348A			
1525-1530 SPACE OPERATION (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) Earth exploration-satellite Mobile except aeronautical mobile S5.349 S5.341 S5.342 S5.350 S5.351 S5.352A S5.354	1525-1530 SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) Earth exploration-satellite Fixed Mobile S5.343 S5.341 S5.351 S5.354	1525-1530 SPACE OPERATION (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) Earth exploration-satellite Mobile S5.349 S5.341 S5.351 S5.352A S5.354	1525-1530 MOBILE-SATELLITE (space-to-Earth) Mobile (aeronautical telemetry) S5.341 S5.351 US78		Satellite Communications (25) Aviation (87)

International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
1670-1675 METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE S5.380 S5.341			1670-1675 S5.341 US211 USyyy	1670-1675 FIXED MOBILE except aeronautical mobile S5.341 US211 USyyy	
1675-1690 METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SAT-ELLITE (space-to-Earth) MOBILE except aeronautical Mobile S5.341	1675-1690 METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SAT-ELLITE (space-to-Earth) MOBILE except aeronautical Mobile MOBILE-SATELLITE (Earth-to-space) S5.341 S5.377	1675-1690 METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SAT-ELLITE (space-to-Earth) MOBILE except aeronautical Mobile S5.341	1675-1700 METEOROLOGICAL AIDS (radiosonde) METEOROLOGICAL-SATELLITE (space-to-Earth)		
1690-1700 METEOROLOGICAL AIDS METEOROLOGICAL-SAT-ELLITE (space-to-Earth) Fixed Mobile except aeronautical Mobile S5.289 S5.341 S5.382	1690-1700 METEOROLOGICAL AIDS METEOROLOGICAL-SAT-ELLITE (space-to-Earth) MOBILE-SATELLITE (Earth-to-space) S5.289 S5.341 S5.377 S5.381	1690-1700 METEOROLOGICAL AIDS METEOROLOGICAL-SAT-ELLITE (space-to-Earth) S5.289 S5.341 S5.381	S5.289 S5.341 US211		
1700-1710 FIXED METEOROLOGICAL-SAT-ELLITE (space- to-Earth) MOBILE except aeronautical Mobile S5.289 S5.341	1700-1710 FIXED METEOROLOGICAL-SAT-ELLITE (space-to-Earth) MOBILE except aeronautical Mobile MOBILE-SATELLITE (Earth-To-space) S5.289 S5.341 S5.377	1700-1710 FIXED METEOROLOGICAL-SAT-ELLITE (space-to-Earth) MOBILE except aeronautical Mobile S5.289 S5.341 S5.384	1700-1710 FIXED G118 METEOROLOGICAL-SAT-ELLITE (space-to-Earth) S5.289 S5.341	1700-1710 METEOROLOGICAL-SAT-ELLITE (space-to-Earth) Fixed S5.289 S5.341	
1710-1930 FIXED MOBILE S5.380			1710-1755 FIXED MOBILE S5.341 US256	1710-1755 S5.341 US256	Note: Proceeds from the auction of the 1710-1755 MHz mixed-use band are to be deposited not later than September 30, 2002.

S5.392		MOBILE (line-of-sight only including aeronautical telemetry, but excluding flight testing of manned aircraft) SPACE RESEARCH (space-to-Earth) (space-to-space) S5.392 US303	US303	
2290-2300 FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space-to-Earth)		2290-2300 FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space-to-Earth)	2290-2300 SPACE RESEARCH (deep space) (space-to-Earth)	
2300-2450 FIXED MOBILE Amateur Radiolocation	2300-2450 FIXED MOBILE RADIOLOCATION Amateur	2300-2305	2300-2305 Amateur	Amateur (97) Note: 2300-2305 MHz became non-Federal Government exclusive spectrum in August 1995
		2305-2310 US338	2305-2310 FIXED MOBILE except aeronautical mobile RADIOLOCATION Amateur US338	Wireless Communications (27) Amateur (97)
		2310-2360 Fixed Mobile US339 Radiolocation G2 G120	2310-2320 FIXED MOBILE US339 RADIOLOCATION BROADCASTING-SATELLITE US327 S5.396 US338	Wireless Communications (27)
			2320-2345 BROADCASTING-SATELLITE US327 Mobile US276 US328 S5.396	
S5.150 S5.282 S5.395	S5.150 S5.282 S5.393 S5.394 S5.396	S5.396 US327 US328 See next page	See next page for 2345-2450 MHz	See next page for 2345-2450 MHz

2345-2655 MHz (UHF)

International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
See previous page for 2300-2450 MHz			See previous page for 2310-2360 MHz	2345-2360 FIXED MOBILE US339 RADIOLOCATION BROADCASTING-SATELLITE US327 S5.396	Wireless Communications (27)
			2360-2385 MOBILE US276 RADIOLOCATION G2 Fixed G120	2360-2385 MOBILE US276	
			2385-2390 USzzz	2385-2390 FIXED MOBILE USzzz	
			2390-2400 G122	2390-2400 AMATEUR	RF Devices (15) Amateur (97)
			2400-2402 S5.150	2400-2402 Amateur S5.150 S5.282	ISM Equipment (18) Amateur (97)
			2402-2417 S5.150 G122	2402-2417 AMATEUR S5.150 S5.282	RF Devices (15) ISM Equipment (18) Amateur (97)
			2417-2450 Radiolocation G2 S5.150 G124	2417-2450 Amateur S5.150 S5.282	ISM Equipment (18) Amateur (97)
2450-2483.5 FIXED MOBILE Radiolocation S5.150 S5.397	2450-2483.5 FIXED MOBILE RADIOLOCATION S5.150 S5.394		2450-2483.5 S5.150 US41	2450-2483.5 FIXED MOBILE Radiolocation S5.150 US41	ISM Equipment (18) Private Land Mobile (90) Fixed Microwave (101)

* * * * *

UNITED STATES (US) FOOTNOTES

* * * * *

US210 In the sub-band 40.66-40.7 MHz, frequencies may be authorized to Government and non-Government stations on a secondary basis for the tracking of, and telemetering of scientific data from, ocean buoys and wildlife. Operation in this sub-band is subject to the technical standards specified in: (a) Section 8.2.42 of the NTIA Manual for Government use, or (b) 47 C.F.R. § 90.248 for non-Government use.

* * * * *

US229 In the band 216-220 MHz, Government operations are on a non-interference basis to authorized non-Government operations and shall not hinder the implementation of any non-Government operations, except at the following space surveillance stations where Government operations are co-primary:

Transmit Frequency of 216.98 MHz			Receive Frequencies of 216.965-216.995 MHz		
Location	North Latitude/ West Longitude	Protection Radius	Location	North Latitude/ West Longitude	Protection Radius
Lake Kickapoo, TX	33° 32' / 098° 45'	250 km	San Diego, CA	32° 34' / 116° 58'	50 km
Jordan Lake, AL	32° 39' / 086° 15'	150 km	Elephant Butte, NM	33° 26' / 106° 59'	50 km
Gila River, AZ	33° 06' / 112° 01'	150 km	Red River, AR	33° 19' / 093° 33'	50 km
			Silver Lake, MO	33° 08' / 091° 01'	50 km
			Hawkinsville, GA	32° 17' / 083° 32'	50 km
			Fort Stewart, GA	31° 58' / 081° 30'	50 km

* * * * *

US276 Except as otherwise provided for herein, use of the bands 2320-2345 MHz and 2360-2385 MHz by the mobile service is limited to aeronautical telemetering and associated telecommand operations for flight testing of manned or unmanned aircraft, missiles or major components thereof. The following four frequencies are shared on a co-equal basis by Government and non-Government stations for telemetering and associated telecommand operations of expendable and reusable launch vehicles whether or not such operations involve flight testing: 2332.5 MHz, 2364.5 MHz, 2370.5 MHz, and 2382.5 MHz. All other mobile telemetering uses shall be secondary to the above uses.

* * * * *

77. US311 Radio astronomy observations may be made in the bands 1350-1400 MHz and 4950-4990 MHz on an unprotected basis at certain radio astronomy observatories indicated below:

National Astronomy and Ionosphere Center, Arecibo, Puerto Rico	Rectangle between latitudes 17° 30' N and 19° 00' N and between longitudes 65° 10' W and 68° 00' W.	
National Radio Astronomy Observatory, Socorro, New Mexico	Rectangle between latitudes 32° 30' N and 35° 30' N and between longitudes 106° 00' W and 109° 00' W.	
National Radio Astronomy Observatory, Green Bank, West Virginia	Rectangle between latitudes 37° 30' N and 39° 15' N and between longitudes 78° 30' W and 80° 30' W.	
National Radio Astronomy Observatory, Very Long Baseline Array Stations	80 kilometers (50 mile) radius centered on:	
	Latitude (North)	Longitude (West)
Pie Town, NM	34° 18'	108° 07'
Kitt Peak, AZ	31° 57'	111° 37'
Los Alamos, NM	35° 47'	106° 15'
Fort Davis, TX	30° 38'	103° 57'
North Liberty, IA	41° 46'	91° 34'
Brewster, WA	48° 08'	119° 41'
Owens Valley, CA	37° 14'	118° 17'
Saint Croix, VI	17° 46'	64° 35'
Mauna Kea, HI	19° 48'	155° 27'
Hancock, NH	42° 56'	71° 59'

Every practicable effort will be made to avoid the assignment of frequencies in the bands 1350-1400 MHz and 4950-4990 MHz to stations in the fixed and mobile services that could interfere with radio astronomy observations within the geographic areas given above. In addition, every practicable effort will be made to avoid assignment of frequencies in these bands to stations in the aeronautical mobile service which operate outside of those geographic areas, but which may cause harmful interference to the listed observatories. Should such assignments result in harmful interference to these observatories, the situation will be remedied to the extent practicable.

* * * * *

US352 In the band 1427-1432 MHz, Government operations, except for medical telemetry operations in the sub-band 1429-1432 MHz, are on a non-interference basis to authorized non-Government operations and shall not hinder the implementation of any non-Government operations, except at the sites identified below where Government operations are co-primary until January 1, 2004.

Location	North Latitude/ West Longitude	Radius	Location	North Latitude/ West Longitude	Radius
Patuxent River, MD	38° 17' / 076° 25'	70 km	Mountain Home AFB, ID	43° 01' / 115° 50'	160 km
NAS Oceana, VA	36° 49' / 076° 02'	100 km	NAS Fallon, NV	39° 24' / 118° 43'	100 km
MCAS Cherry Point, NC	34° 54' / 076° 52'	100 km	Nellis AFB, NV	36° 14' / 115° 02'	100 km
Beaufort MCAS, SC	32° 26' / 080° 40'	160 km	NAS Lemore, CA	36° 18' / 119° 47'	120 km
NAS Cecil Field, FL	30° 13' / 081° 52'	160 km	Yuma MCAS, AZ	32° 39' / 114° 35'	160 km
NAS Whidbey IS., WA	48° 19' / 122° 24'	70 km	China Lake, CA	35° 29' / 117° 16'	80 km
Yakima Firing Ctr AAF, WA	46° 40' / 120° 15'	70 km	MCAS Twenty Nine Palms, CA	34° 15' / 116° 03'	80 km

* * * * *

USxxx In the band 1432-1435 MHz, Government operations are on a non-interference basis to authorized non-Government operations and shall not hinder the implementation of any non-Government operations, except at the sites identified below where Government operations are co-primary:

Location	North Latitude/ West Longitude	Protection Radius	Location	North Latitude/ West Longitude	Protection Radius
China Lake/Edwards AFB, CA	35° 29' / 117° 16'	100 km	AUTEC	24° 30' / 078° 00'	80 km
White Sands Missile Range/Holloman AFB, NM	32° 11' / 106° 20'	160 km	Beaufort MCAS, SC	32° 26' / 080° 40'	160 km
Utah Test and Training Range/ Dugway Proving Ground, Hill AFB, UT	40° 57' / 113° 05'	160 km	MCAS Cherry Point, NC	34° 54' / 076° 53'	100 km
Patuxent River, MD	38° 17' / 076° 24'	70 km	NAS Cecil Field, FL	30° 13' / 081° 52'	160 km
Nellis AFB, NV	37° 29' / 114° 14'	130 km	NAS Fallon, NV	39° 30' / 118° 46'	100 km
Fort Huachuca, AZ	31° 33' / 110° 18'	80 km	NAS Oceana, VA	36° 49' / 076° 01'	100 km
Eglin AFB/Gulfport ANG Range, MS/Fort Rucker, AL	30° 28' / 086° 31'	140 km	NAS Whidbey Island, WA	48° 21' / 122° 39'	70 km
Yuma Proving Ground, AZ	32° 29' / 114° 20'	160 km	NCTAMS, GUM	13° 35' / 144° 51' East	80 km
Fort Greely, AK	63° 47' / 145° 52'	80 km	Lemoore, CA	36° 20' / 119° 57'	120 km
Redstone Arsenal, AL	34° 35' / 086° 35'	80 km	Savannah River, SC	33° 15' / 081° 39'	3 km
Alpene Range, MI	44° 23' / 083° 20'	80 km	Naval Space Oper-ations Center, ME	44° 24' / 068° 01'	80 km
Camp Shelby, MS	31° 20' / 089° 18'	80 km			

USyyy In the band 1670-1675 MHz, Government operations are on a non-interference basis to authorized non-Government operations and shall not hinder the implementation of any non-Government operations, except that the Geostationary Orbit Environmental Satellite receiving earth station at Wallops Island, VA (37° 56' 47" N, 75° 27' 37" W) operates on a co-primary basis.

USzzz Until January 1, 2005, the band 2385-2390 MHz is also allocated to the Government mobile and radiolocation services on a co-primary basis and to the Government fixed service on a secondary basis. Use of the mobile service is limited to aeronautical telemetry and associated telecommand operations for flight testing of manned or unmanned aircraft, missiles or major components thereof. Use of the radiolocation service is limited to the military services. On January 1, 2005, Government operations in the band 2385-2390 MHz shall be on a non-interference basis to authorized non-Government operations

and shall not hinder the implementation of any non-Government operations, except at the sites identified below where Government operations are co-primary until January 1, 2007.

Location	North Latitude/ West Longitude	Protection Radius	Location	North Latitude/ West Longitude	Protection Radius
Yuma Proving Ground, AZ	32° 54' / 114° 20'	160 km	Palm Beach County, FL	26° 54' / 080° 19'	160 km
Nellis AFB, NV	37° 48' / 116° 28'	160 km	Barking Sands, HI	22° 07' / 159° 40'	160 km
White Sands Missile Range, NM	32° 58' / 106° 23'	160 km	Roosevelt Roads, PR	18° 14' / 065° 38'	160 km
Utah Test Range, UT	40° 12' / 112° 54'	160 km	Glasgow, MT	48° 25' / 106° 32'	160 km
China Lake, CA	35° 40' / 117° 41'	160 km	Edwards AFB, CA	34° 54' / 117° 53'	100 km
Eglin AFB, FL	30° 30' / 086° 30'	160 km	Patuxent River, MD	38° 17' / 076° 25'	100 km
Cape Canaveral, FL	28° 33' / 080° 34'	160 km	Witchita, KS	37° 40' / 097° 26'	160 km
Seattle, WA	47° 32' / 122° 18'	160 km	Roswell, NM	33° 18' / 104° 32'	160 km
St. Louis, MO	38° 45' / 090° 22'	160 km			

* * * * *

GOVERNMENT (G) FOOTNOTES

* * * * *

G2 In the bands 220-225 MHz, 420-450 MHz (except as provided by US217), 890-902 MHz, 928-942 MHz, 1300-1390 MHz, 2310-2385 MHz, 2417-2450 MHz, 2700-2900 MHz, 5650-5925 MHz, and 9000-9200 MHz, the Government radiolocation service is limited to the military services.

* * * * *

G27 In the bands 255-328.6 MHz, 335.4-399.9 MHz, and 1350-1390 MHz, the fixed and mobile services are limited to the military services.

* * * * *

G114 The band 1369.05-1390 MHz is also allocated to the fixed-satellite service (space-to-Earth) and to the mobile-satellite service (space-to-Earth) on a primary basis for the relay of nuclear burst data.

* * * * *

G120 Development of airborne primary radars in the band 2310-2385 MHz with peak transmitter power in excess of 250 watts for use in the United States is not permitted.

* * * * *

PART 90--PRIVATE LAND MOBILE RADIO SERVICES

3. The authority citation for part 90 continues to read as follows:

Authority: Sections 4(I), 11, 303(g), 303(r), and 302(c)(7) of the Communications Act of 1934, as amended, 47 U.S.C. 154(I), 161, 303(g), 303(r), 332(c)(7).

4. Section 90.248 is revised to read as follows:

§ 90.248 Wildlife and ocean buoy tracking.

(a) The frequency band 40.66-40.7 MHz may be used for the tracking of, and the telemetry of scientific data from, ocean buoys and animal wildlife.

* * * * *

(2) Reserved.

* * * * *

APPENDIX B

Initial Regulatory Flexibility Analysis

As required by the Regulatory Flexibility Act (RFA)[1] the Commission has prepared this present Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities by the policies and rules proposed in this Notice of Proposed Rule Making (Notice). Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the Notice of Proposed Rule Making provided above in paragraph 60. The Commission will send a copy of the Notice of Proposed Rule Making including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration. *See* 5 U.S.C. § 603(a). In addition, the Notice of Proposed Rule Making and IRFA will be published in the Federal Register.

A. Need for, and Objectives of, the Proposed Rules.

We proposed to allocate a total of 27 megahertz of spectrum from the 216-220 MHz, 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, 1432-1435 MHz, 1670-1675 MHz, and 2385-2390 MHz, bands transferred from Government to non-Government use pursuant to the provisions of the Omnibus Budget Reconciliation Act of 1993 and the Balanced Budget Act of 1997. These seven bands have a variety of continuing Government protection requirements and incumbent Government and non-Government uses. Despite these constraints and the relatively narrow bandwidth contained in each of the bands, we believe that the proposals presented will foster a variety of potential applications in both new and existing services. The transfer of these bands to non-Government use should enable the development of new technologies and services, provide additional spectrum relief for congested private land mobile frequencies, and fulfill our obligations as mandated by Congress to assign this spectrum for non-Government use.

This Notice proposes general Fixed Service and Mobile Service allocation for each of the bands addressed, and asks questions about other possible allocations. The Notice also solicits comment on potential service rules for the services to which the bands may be allocated.

B. Legal Basis.

This action is taken pursuant to Sections 4(i), 7(a), 303(c), 303(f), 303(g), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154(i), 157(a), 303(c), 303(f), 303(g), and 303(r).

C. Description and Estimate of the Number of Small Entities to Which the Proposed Rules Will Apply.

The RFA directs agencies to provide a description of, and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.[2] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdictions." In addition, the term "small business" has the same meaning as

[1] *See* 5. U.S.C. § 603, The RFA, *see* 5 U.S.C. § 601 *et.seq.*, has been amended by the Contract With America Advancement Act of 1996, Public Law 104-121, 110 Stat. 847 (1996) (CWAAA). Title II of the CWAAA is the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA).

[2] 5 U.S.C. § 603(b)(3).

the term "small business concern" under the Small Business Act, 15 U.S.C. § 632, unless the Commission has developed one or more definitions that are appropriate to its activities.[3] A "small business concern" is one that: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) meets any additional criteria established by the Small Business Administration ("SBA").[4]

A small organization is generally "any not-for-profit enterprise which is independently owned and operated and is not dominant in its field."[5] Nationwide, as of 1992, there were approximately 275,801 small organizations.[6] The definition of "small governmental jurisdiction" is one with populations of fewer than 50,000.[7] There are 85,006 governmental jurisdictions in the nation.[8] This number includes such entities as states, counties, cities, utility districts and school districts. There are no figures available on what portion of this number has populations of fewer than 50,000. However, this number includes 38,978 counties, cities and towns, and of those, 37,556, or 96 percent, have populations of fewer than 50,000.[9] The Census Bureau estimates that this ratio is approximately accurate for all government entities. Thus, of the 85,006 governmental entities, we estimate that 96 percent, or about 81,600, are small entities that may be affected by our rules. Nationwide, there are 4.44 million small business firms, according to SBA reporting data.[10]

The Notice proposes to allocate 27 megahertz of spectrum, licenses in some of which will be assigned by auction, and licenses in some of which may be assigned by auctioned. The Notice proposes very broad allocations of this spectrum, and asks questions designed to produce public comment which will allow the Commission to allocate and authorize the spectrum to more narrow, specific services. The Commission has not yet determined or proposed how many licenses will be awarded, nor will it know how many licensees will be small businesses until auctions, if required, are held. In addition, at this point in the proceeding, the Commission does not know how many licensees may partition their license areas or disaggregate their spectrum blocks, if partitioning and disaggregation are allowed. We therefore assume that, for purposes of our evaluations and conclusions in the IRFA, all of the prospective licensees in the bands addressed in the Notice are small entities, as that term is defined by the SBA.

Incumbent services in the 216-220 MHz band, which the Notice proposes to allocate on a primary basis to the Fixed and Mobile Services, include the Automated Maritime Telecommunications Service (AMTS), telemetry users and Low Power Radio Service users. The Commission has defined small businesses in the AMTS as those businesses which, together with their affiliates and controlling interests, have not more than fifteen million dollars ($15 million) in the preceding three years. There are only

---

[3] *See* 5 U.S.C. § 601(3).

[4] 15 U.S.C. § 632.

[5] *Id.* § 601(4).

[6] Department of Commerce, U.S. Bureau of the Census, 1992 Economic Census, Table 6 (special tabulation of data under contract to Office of Advocacy of the U.S. Small Business Administration).

[7] 5 U.S.C. § 601(5).

[8] 1992 Census of Governments, U.S. Bureau of the Census, U.S. Department of Commerce.

[9] *Id.*

[10] *See* 1992 Economic Census, U.S. Bureau of the Census, Table 6 (special tabulation of data under contract to Office of Advocacy of the U.S. Small Business Administration).

three AMTS licensees, none of whom are small businesses. However, potential licensees in AMTS include all public coast stations, which are classified by the Small Business Administration as Radiotelephone Service Providers, Standard Industrial Classification Code 4812.[11] The Commission has defined a "small entity" public coast station as one employing no more than 1500 persons.[12] According to the 1992 Census of Transportation, Communications, and Utilities, there are a total of 1178 radiotelephone service providers, of whom only 12 had more than 1000 employees. Therefore, we estimate that at least 1166 small entities may be affected by the proposed rules.

Users of telemetry are generally large corporate entities, such as utility companies, and it is unlikely that any of the users would be small businesses. The Low Power Radio Service permits licensees to use the 216-217 MHz segment for auditory assistance, medical devices, and law enforcement tracking devices. Users are likely to be theaters, auditoriums, churches, schools, banks, hospitals, and medical care facilities. The primary manufacturer of auditory assistance estimates that it has sold 25,000 pieces of auditory assistance equipment. Many if not most Low Power Radio Service licensees are likely to be small businesses. However, because the Low Power Radio Service is licensed by rule, with no requirement for individual license applications or documents, the Commission is unable to estimate how many small businesses use the Low Power Radio Service.

The incumbent service in the 1427-1429 MHz band is a telemetry licensee. The Commission has issued only one telemetry license in the band, and Itron, Inc., the licensee, with an investment of $100 million in equipment development, is not likely to be a small business.

The incumbent services in the 1429-1432 MHz band include utility telemetry, with Itron, Inc. as the only licensee, and medical telemetry. As stated above, Itron, Inc. is not likely to be a small business. Users of medical telemetry are hospitals and medical care facilities, some of which are likely to be small businesses.

According to the SBA's regulations, nursing homes and hospitals must have annual gross receipts of $5 million or less in order to qualify as a small business concern. There are approximately 11,471 nursing care firms in the nation, of which 7,953 have annual gross receipts of $5 million or less.[13] There are approximately 3,856 hospital firms in the nation, of which 294 have gross receipts of $5 million or less. Thus, the approximate number of small confined setting entities to which the Commission's new rules will apply is 8,247.

We invite comment on this analysis, particularly on the number of small businesses that are likely to be affected by these proposed rules. Commenters are invited to address how the proposed rules affect small businesses, and to suggest alternative rules.

---

[11] *See* 13 C.F.R. § 121.201.

[12] *See Amendment of the Commission's Rules Concerning Maritime Communications*, PR Docket No. 92-257, *Third Report and Order and Memorandum Opinion and Order*, 13 FCC Rcd. Rcd 19853, 19893 (1998).

[13] *See* Small Business Administration Tabulation File, SBA Size Standards Table 2C, January 23, 1996, SBA, Standard Industrial Code (SIC) categories 8050 (Nursing and Personal Care Facilities) and 8060 (Hospitals). (SBA Tabulation File).

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements.

Entities interested in acquiring spectrum in the bands at issue in the *Notice* will be required to submit license applications and high bidders will be required to apply for their individual licenses. Additionally, new licensees will be required to file applications for license renewals and make certain other filings as required by the Communications Act. We request comment on how these requirements can be modified to reduce the burden on small entities and still meet the objectives of the proceeding.

E. Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered.

In all of the bands where incumbent licensees exist, we have inquired whether we should elevate the status of the services in which the incumbents are licensed to primary. We have further discussed these services at some length, and have requested public comment on how we can accommodate incumbents in these bands during the reallocation process.

F. Federal Rules that May Duplicate, Overlap, or Conflict With the Proposed Rules.

None.

SEPARATE STATEMENT OF CHAIRMAN WILLIAM E. KENNARD

Re: In the Matter of Reallocation of the 216-220 MHz, 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, 1432-1435 MHz, 1670-1675 MHz, and 2385-2390 MHz Government Transfer Bands

The explosive growth in wireless communications has created tremendous demand for spectrum. The steps we take today will introduce 27 MHz of additional spectrum into the marketplace for companies to provide new and exciting services to consumers. The transfer of these bands to non-Government use should enable the development of new technologies and services, provide additional spectrum relief for congested private land mobile frequencies, and fulfill the FCC's obligation as mandated by Congress to assign this spectrum for non-Government use. I am particularly pleased by the participation of several small innovative companies in this proceeding.

This proceeding establishes reimbursement procedures for the relocation of Federal incumbents pursuant to the National Defense Authorization Act of 1999. This is a very difficult issue and will require close coordination and cooperation between the FCC and the National Telecommunications and Information Administration (NTIA). The Communications Act assigns shared jurisdiction over radio spectrum to the FCC and NTIA.[1] The FCC and NTIA have developed coordination procedures to manage this shared jurisdiction in a Memorandum of Understanding (MOU). This MOU requires the FCC and NTIA (on behalf of all Federal Agencies) to provide each other with advance notice of all proposed actions which would tend to cause interference to each other's operations in time for the other agency to comment prior to final action. Under the terms of the MOU, final action by either agency does not require approval by the other agency. Consistent with Commission rules, NTIA provided input on the proceeding prior to final adoption,[2] but the Commission independently made its own final decisions. Despite claims otherwise, I am confident that this process was fair and transparent and consistent with both statutory requirements and Commission rules.

[1] Sections 301-303 of Title III of the Communications Act of 1934 as amended [47 U.S.C. 301-303] authorizes the FCC to manage and license spectrum for commercial, public safety, and state and local governments. Section 305 of Title III exempts Federal Government-owned stations from FCC jurisdiction. Section 103 of the National Telecommunications and Information Administration Organization Act [47 U.S.C. 902] authorizes NTIA to manage spectrum allocated to Federal users. Section 105 authorizes NTIA to establish the Interdepartmental Radio Advisory Committee (IRAC) to coordinate spectrum management with other Federal agencies.

[2] The Commission's *ex parte* rules have an exemption that expressly cites coordination with NTIA. This exemption is known as the "shared jurisdiction" exemption and is documented in section 1.1204(a)(5) of the Commission's rules.

SEPARATE STATEMENT OF COMMISSIONER SUSAN NESS AND COMMISSIONER GLORIA TRISTANI

Re: In the Matter of Reallocation of the 216-220 MHz, 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, 1432-1435 MHz, 1670-1675 MHz, and 2385-2390 MHz Government Transfer Bands

We support the steps the Commission takes today toward making available an additional 27 megahertz of spectrum for an array of wireless services, including personal location and other public safety services, Little LEO satellite services, private land mobile services and utility telemetry services. All of these potential uses of the spectrum are of value to American consumers. We urge this agency to move expeditiously with the transition of this spectrum from current government use.

As underscored in the Omnibus Budget Reconciliation Act of 1993 ("OBRA-93") and the Balanced Budget Act of 1997 ("BBA-97"), the FCC must work hand in hand with the National Telecommunications and Information Administration ("NTIA") to develop and execute an appropriate reimbursement regime for government users when this spectrum is reallocated.[1] The relevant statute provides that "NTIA and the Commission shall develop [procedures to reimburse Federal incumbents for relocation costs. These] procedures shall include a process for resolving any differences that arise between the Federal Government and commercial licensees regarding estimates of relocation or modification costs under this paragraph."[2] This specific requirement is consistent with the Congress' general assignment to the Commission and NTIA of shared jurisdiction over spectrum.[3]

Under these statutory mandates, the Commission has worked with NTIA to address issues presented by the transfer of this spectrum. As Commissioner Ness has previously indicated, there has been a need to develop a better process for coordination between our agencies.[4] While NTIA's

[1] Specifically, pursuant to Section 6001(a) of OBRA-93, NTIA identified 235 megahertz of Government spectrum for transfer to non-Government use, including the 27 MHz. OBRA-93, Pub. L. 103-66, 107 Stat. 312, 47 U.S.C. § 923(a-b). Pursuant to Section 3002(e) of the BBA-97, the Commission was directed to assign certain of these bands in the 27 MHz in compliance with Section 309(j) of the Communications Act of 1934, as amended (the "Act"). BBA-97, Pub. L. 105-33, 111 Stat. 251, 47 U.S.C. § 923(b)(3); *see* 47 U.S.C. § 309(j). Section 3002(d) of the BBA-97 authorized federal Government entities relinquishing spectrum to accept payment for vacating their spectrum and relocating to new facilities; this authority for reimbursement was made mandatory by Section 1064(c)(3) of the Strom Thurmond National Defense Authorization Act For Fiscal Year 1999 ("NDAA-99"). *Id.*, 47 U.S.C. § 923(g); NDAA-97, Pub. L. 105-261, 112 Stat. 1920, 47 U.S.C. § 923(c)(3)(B).

[2] 47 U.S.C. § 923(g)(1)(E).

[3] Sections 301-303 of Title III of the Communications Act of 1934 as amended, 47 U.S.C. §§ 301-303, authorize the FCC to manage and license spectrum for commercial, public safety, and state and local governments. Section 305 of Title III exempts Federal Government-owned stations from FCC jurisdiction. Section 103 of the National Telecommunications and Information Administration Organization Act, 47 U.S.C. § 902, authorizes NTIA to manage spectrum allocated to Federal users. Section 105 authorizes NTIA to establish the Interdepartmental Radio Advisory Committee ("IRAC") to coordinate spectrum management with other Federal agencies.

[4] *See* Separate Statement of Commissioner Susan Ness, *U.S. GPS Industry Council, American Airlines and United Airlines, Consolidated Petition for Reconsideration of Waivers Issued Under Delegated Authority by the Chief, Office of Engineering and Technology* (rel. July 14, 2000). The Commission's *ex parte* rules currently contain an exemption, known as the "shared jurisdiction" exemption, expressly permitting coordination with NTIA. *See* 47 C.F.R § 1.1204(a)(5).

(continued....)

consultation should be obtained promptly on policies that impact frequencies on which the Government operates, the Commission cannot sacrifice its independent judgment when deciding matters such as the allocation of the 27 MHz at issue in this proceeding. We must ensure that our processes are open, and we must transparently formulate our policy. As with our assessment of ultrawide band technology, the allocation of new frequencies for the rapid introduction of 3rd generation wireless services may depend in significant part on our success in properly balancing the role of the Commission and NTIA in the rulemaking process.

Over the past several months, the FCC and NTIA have improved coordination procedures to better manage our shared jurisdiction. We provide NTIA with advance notice of all proposed actions that might cause interference to Federal operations in sufficient time for comment prior to final action. While NTIA is encouraged to provide input into the Commission's decisions prior to final adoption, the Commission renders its decisions independently. The efforts and good will of our respective staffs have improved the process, although more needs to be done to achieve an appropriate level of transparency. The public has the right to understand and address issues that might arise from conflicting interests between Government and commercial use of spectrum.

As for the instant proceeding, despite any "back and forth" between the staffs of the Commission and NTIA, we are confident that this agency exercised its own independent judgment in adopting the Notice we issue today. We anticipate vigorous open debate on bidders' need for information on relocation costs of Government licensees, as well as the relocation process in general. In resolving the issues, the Commission will carefully weigh the concerns of NTIA and its constituents, as well as all parties to this proceeding.

(Continued from previous page)

SEPARATE STATEMENT OF COMMISSIONER HAROLD FURCHTGOTT-ROTH

Re *Reallocation of the 216-220 MHz, 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, 1432-1435 MHz, 1670-1675 MHz, and 2385-2390 MHz Government Transfer Bands, ET Docket No. 00-221.*

I support today's decision to move forward in the transition of these spectrum bands from government to private use. I look forward to the development of a full record regarding the panoply of services that may be made available in these bands, including utility telemetry, Little LEO satellite services, public safety, and personal location services. These are very significant allocations and it is my hope that the Commission will examine fully each of these possible applications.

This Order also tackles a much larger issue: the appropriate relocation procedure for incumbent government radio operations under the National Defense Authorization Act of 1999. Relocation of government incumbents, much like relocation policy generally, is a very difficult issue. As I stated in one recent relocation decision, "[t]he consequences of crafting a faulty relocation policy are enormous. If the FCC sets relocation costs too high, artificially high entry costs may prevent the offering of economically efficient services. Alternatively, if relocation costs are set too low, the Commission may essentially be funding new entrants on the backs of [] incumbents."[1] The stakes here are particularly high because relocation of government incumbents may be a key link in the availability of spectrum for third generation (3G) and other new technologies.

The challenges in the government occupied bands are particularly daunting. Congress recognized this challenge and delegated responsibility to the FCC and NTIA to craft a solution jointly. The statute requires that "[t]he NTIA and the Commission . . . develop procedures for the implementation of this paragraph, which procedures shall include a process for resolving any differences that arise between the Federal Government and commercial licensees regarding estimates or relocation or modification costs. . . "[2] The process that led to today's order is a somewhat troubling first step in this joint undertaking.

The statute contemplates a process involving both agencies. Although I believe that a joint proceeding may have been the most effective procedure, the agencies' staffs determined that a division of rulemaking responsibility with close coordination was the best approach. The agencies share a mandate to act in the public interest and each has a role to play in this process. For the Commission, our role is to provide commercial parties with the information they need to participate in a successful auction and eventually roll out new and innovative services to the American people. NTIA must ensure that governmental operations are fully protected, through relocation or modification. Our goals are not contrary to one another. However, implementing Congress' goals does require a high level of cooperation between NTIA and the FCC.

Unfortunately the process that led to the adoption of this item was not indicative of a cooperative relationship between two equal partners. After our experience in the ultrawideband proceeding, the

---

[1] Separate Statement Of Commissioner Harold Furchtgott-Roth, Approving In Part, Dissenting In Part *Redesignation Of The 17.7-19.7 GHz Frequency Band, Blanket Licensing Of Satellite Earth Stations In The 17.7-20.2 GHz And 27.5-30.0 Frequency Bands, Et Al. IB Docket No. 98-172, RM-9005, RM-9118 (Rel. June 22 , 2000).*

[2] See 47 U.S.C. § 923 (g)(1)(E).

Commissioner offices requested that any NTIA changes be specifically vetted with the offices prior to any voting. Thus, I had a bird's eye view of this coordinated "process." Indeed, NTIA wrangled with Commission staff over everything from word changes to whether or not it was "permissible" for the NPRM to discuss satellite uses of this spectrum. The adoption process was significantly delayed by NTIA's repeated reviews, shifts in position, and endless editing. Ultimately, the Commission refused to vote the item until this process was complete.

It is essential for the Commission to maintain its independence, particularly the integrity of the decision-making process at the Commission level. As I stated a few short months ago, "I believe it is important that the FCC consult with NTIA regarding regulatory policy that may impact government bands. Once the staff has a complete record and develops its final recommendation for the Commission, NTIA should not be provided with additional drafts or have 'sign off' authority on revisions. The circulated Order should be the sole province of the Commissioners and the staff. NTIA has every right to be heard, but no right to edit every word."[3]

In a disturbing trend, some have shown a distressing willingness to cede significant institutional ground to NTIA behind closed doors. The FCC has at times been relegated to an almost subservient role of merely rubberstamping those decisions that have the prior approval of the Administration. Indeed, absent close attention, this process may transform NTIA from a partner into a supervisor. For example, indicative of this trend is the apparent expectation of NTIA revealed in a cover letter to the FCC's staff regarding this item: "NTIA staff . . . have identified a number of necessary changes prior to release of the rulemaking." At the end of the day, the Commissioners must be the sole arbitrators of what changes are "necessary" to FCC items, and NTIA can only expect that we will fully consider their recommendations. The public has every right to expect that our decisions reflect our views – and we will be held accountable for those decisions. But by blurring these lines -- and allowing the shrouded hand of NTIA to take the pen – we undermine the authority of the Commission itself.

If NTIA has concerns about the FCC's policy, there is a very public process for addressing those concerns on the record. The repeated use of back door editing and policy pressure does not serve the American people well. If the Commission ever allows these tactics to succeed, it undermines the integrity and transparency of our work.

Third generation and other wireless technologies anxiously await our spectrum policy decisions. Those decisions must be made *with* NTIA, not *by* NTIA. This distinction is all the more important in this case because NTIA's constituency is the incumbents that must be relocated or modified to allow for commercial services. While those incumbents are entitled to be made whole, nothing more is required. As Congress envisioned, the Commission (with its institutional interest in new commercial entrants) and NTIA (with its incumbent constituency) must work together to generate a balanced and fair process for the evolution of these bands. Just as I have long been an advocate of the FCC staying within its statutory mandate, I must also be an advocate for the Commission to live up to its statutory responsibility to be a full and equal partner in relocation policy.

---

[3] See Separate Statement Of Commissioner Harold Furchtgott-Roth, in *U.S. GPS Industry Council, American Airlines and United Airlines, Consolidated Petition for Reconsideration of Waivers Issued under Delegated Authority by the Chief, Office of Engineering and Technology, Order (rel. July 14, 2000).*