

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)	
)	
Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands)	WT Docket No. 03-66 RM-10586
)	
Part 1 of the Commission's Rules - Further Competitive Bidding Procedures)	WT Docket No. 03-67
)	
Amendment of Parts 21 and 74 to Enable Multipoint Distribution Service and the Instructional Television Fixed Service to Engage in Fixed Two-Way Transmissions)	MM Docket No. 97-217
)	
Amendment of Parts 21 and 74 of the Commission's Rules With Regard to Licensing in the Multipoint Distribution Service and in the Instructional Television Fixed Service for the Gulf of Mexico)	WT Docket No. 02-68 RM-9718
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COMMENTS OF WCA, NIA AND CTN

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TABLE OF CONTENTS

I.	INTRODUCTION.....	1
II.	THE COMMISSION SHOULD ADOPT THE BANDPLAN PROPOSED BY WCA, NIA AND CTN....	5
	A. THE COALITION BANDPLAN ACCOMMODATES THE WIDEST ARRAY OF POSSIBLE NETWORK DESIGNS, AND ALLOWS THE MARKETPLACE TO DETERMINE THE BEST USES OF EACH BAND SEGMENT.	7
	i) <i>The WCA, NIA and CTN Bandplan Generally Separates High-Power, High-Site Operations From Cellular Services, While Providing Licensees Flexibility Under Appropriate Circumstances.</i>	8
	ii) <i>The Coalition Proposal Affords System Operators The Flexibility To Offer TDD And/Or FDD Services, And To Routinely Switch Between The Two Technologies In Response To Technical Innovation And Marketplace Demands.</i>	10
	B. THE PROPOSED BANDPLAN ACCOMMODATES THE NEEDS OF EDUCATIONAL AND COMMERCIAL LICENSEES TO PROVIDE VIDEO AND DATA SERVICES ON A WIDE AREA BASIS.	13
	C. THE SIZE AND LOCATION OF THE PROPOSED MBS STRIKES THE RIGHT BALANCE BETWEEN THE NEED FOR HIGH POWER AND LOW POWER SERVICES IN THE BAND, AND MINIMIZES RELOCATION COSTS.....	17
	D. RETENTION OF THE I CHANNELS ASSURES THAT THE UBS CAN BE USED WITH MINIMAL INTERFERENCE FROM RADAR SYSTEMS OPERATING ABOVE 2700 MHZ AND PROTECTS EARTH EXPLORATION, RADIO ASTRONOMY AND SPACE RESEARCH FROM MDS/ITFS INTERFERENCE.	22
	E. THE DEINTERLEAVING OF CHANNEL ASSIGNMENTS WILL PROMOTE DEPLOYMENT OF NEW SERVICES AND ELIMINATE THE CURRENT VETO OVER NEW SERVICES HELD BY ADJACENT CHANNEL LICENSEES.	24
	F. THE ALTERNATIVE BANDPLANS SUGGESTED IN THE NPRM PROVIDE LESS FLEXIBILITY AND SPECTRAL EFFICIENCY THAN THE WCA, NIA AND CTN BANDPLAN.	25
	i) <i>A Bandplan With Two Segments For High-Power Operations Is Unnecessary, Less Spectrally Efficient, And More Expensive To Implement.</i>	25
	ii) <i>A Bandplan With A Single Contiguous Cellular Segment Will Be Spectrally Inefficient If FDD Technologies Emerge.</i>	29
	iii) <i>A Mandatory Across-The-Board Power Reduction Would Be Fraught With Problems.</i>	30
	G. THE COMMISSION SHOULD PERMIT PARTITIONING AND DISAGGREGATION UNDER WHATEVER BANDPLAN IS ADOPTED.....	33
III.	THE COMMISSION SHOULD ADOPT THE CAREFULLY CRAFTED COALITION PROPOSAL FOR TRANSITIONING TO THE NEW BANDPLAN.	35
IV.	THE TECHNICAL RULES PROPOSED BY WCA, NIA AND CTN SHOULD BE ADOPTED.....	41
	A. THE PROVISIONS IN THE COALITION PROPOSAL DESIGNED TO REGULATE COCHANNEL INTERFERENCE OUTSIDE THE MBS STRIKE AN APPROPRIATE BALANCE BETWEEN AFFORDING LICENSEES FLEXIBILITY AND ASSURING REASONABLE INTERFERENCE PROTECTION.	41
	B. THE EMISSION MASKS ADVANCED BY WCA, NIA AND CTN REASONABLY LIMIT ADJACENT CHANNEL INTERFERENCE AND MAXIMIZE SPECTRAL EFFICIENCY WHILE REMAINING TECHNOLOGY NEUTRAL.	48
	C. THE COMMISSION SHOULD ADOPT WCA, NIA AND CTN'S PROPOSED APPROACH TO CREATING GEOGRAPHIC SERVICE AREAS AND PROTECTING INCUMBENT ITFS RECEIVE SITES.	58
	D. THE COMMISSION SHOULD NOT IMPOSE STANDARDS IN THE HOPE OF PROMOTING INTEROPERABILITY OR ROAMING.	61
	E. COMMISSION CONSIDERATION OF UNLICENSED OPERATIONS IN THE 2500-2655 MHZ BAND IS PREMATURE AND IMPRUDENT AT THIS JUNCTURE.	64
	F. THE COMMISSION SHOULD ADOPT APPROPRIATE RESTRICTIONS ON TRANSMISSIONS BY SUBSCRIBER UNITS.	68
	G. THE COMMISSION SHOULD REDUCE THE MINIMUM REQUIRED ADJACENT CHANNEL DESIRED-TO-UNDESIRE SIGNAL RATIO APPLICABLE TO THE MBS FROM 0 DB TO -10 DB.	72
V.	THE COMMISSION MUST ASSURE THAT THE AUTHORIZATION OF OPERATIONS IN THE GULF OF MEXICO NOT ADVERSELY IMPACT THE PROVISION OF LAND-BASED SERVICES USING THE 2.5 GHZ BAND.	74

VI. THE FCC SHOULD ADOPT RULES AND POLICIES WITH RESPECT TO CONSTRUCTION DEADLINES, BUILD-OUT REQUIREMENTS AND TEMPORARY CESSATION OF OPERATIONS THAT ARE FUNDAMENTALLY FAIR TO LICENSEES, THAT REFLECT THE PHILOSOPHIES GOVERNING FLEXIBLE USE, AND THAT WILL PROMOTE THE MIGRATION OF SERVICE OFFERINGS TO THE HIGHEST AND BEST USE.....	83
A. THE COMMISSION SHOULD ADOPT A UNIFORM SUBSTANTIAL SERVICE PERFORMANCE REQUIREMENT AND APPROPRIATE SAFE HARBORS FOR ALL MDS AND ITFS LICENSEES	86
i) <i>Adoption Of A “Substantial Service” Performance Standard Coupled With Safe Harbors Will Serve The Public Interest.....</i>	86
ii) <i>The Substantial Service Test Should Be Satisfied And A Renewal Expectancy Awarded If Substantial Service Was Provided At Some Time During The License Term.....</i>	91
B. VALID CONDITIONAL LICENSES SHOULD BE CONVERTED TO LICENSES WITHOUT CONSTRUCTION DEADLINES BUT SUBJECT TO THE SUBSTANTIAL SERVICE STANDARD AT RENEWAL REQUIREMENT.	94
VII. THE COMMISSION SHOULD AUCTION THE ITFS “WHITE SPACE” IN THE MANNER PROPOSED BY WCA, NIA AND CTN.....	95
A. THE COMMONS MODEL IS INAPPROPRIATE FOR ITFS WHITE SPACE.....	95
B. THE COMMISSION SHOULD CONDUCT ITS WHITE SPACE AUCTION ON A CHANNEL GROUP-BY-CHANNEL GROUP BASIS.....	98
C. THE COMMISSION SHOULD UTILIZE BASIC TRADING AREAS FOR THE AUCTIONING OF THE ITFS WHITE SPACE TO PROVIDE CONSISTENCY WITH MDS AUTHORIZATIONS.....	100
D. PENDING MUTUALLY-EXCLUSIVE ITFS APPLICATIONS THAT HAVE ACHIEVED CUT-OFF STATUS UNDER THE CURRENT RULES SHOULD BE AUCTIONED WITHOUT AFFORDING ADDITIONAL APPLICANTS AN OPPORTUNITY TO PARTICIPATE.	102
E. THE COMMISSION MUST STRUCTURE THE ITFS WHITE SPACE AUCTION IN A MANNER THAT REFLECTS THE UNIQUE NATURE OF ITFS.	104
F. TWO-SIDED AUCTIONS ARE INAPPROPRIATE FOR THE 2.5 GHz BAND GIVEN THE SUBSTANTIAL CONSOLIDATION AND RATIONALIZATION THAT HAS ALREADY OCCURRED THROUGH SECONDARY MARKET MECHANISMS AND THE SIGNIFICANT POTENTIAL FOR DELAYS IN THE DEPLOYMENT OF BROADBAND FACILITIES.	106
i) <i>A Two-Sided Auction Is Not Likely To Have A Dramatic Impact On The Consolidation And Rationalization Of Spectrum In The 2.5 GHz Band.....</i>	107
ii) <i>Any Attempt To Utilize A Restructuring Auction Is Likely To Delay The Deployment Of Broadband Services In The 2.5 GHz Band.....</i>	112
G. REVISED AGREEMENTS WITH MEXICO AND CANADA ARE NECESSARY TO PROMOTE THE DEPLOYMENT OF WIRELESS BROADBAND SERVICES OVER MDS/ITFS SPECTRUM.....	117
VIII. THE COMMISSION SHOULD NOT IMPOSE CROSS-OWNERSHIP OR OTHER ELIGIBILITY REQUIREMENTS ON MDS/ITFS THAT ARE NOT REQUIRED BY STATUTE.....	118
IX. THE COMMISSION SHOULD NOT INCREASE THE ITFS PROGRAMMING REQUIREMENTS IMPOSED ON LICENSEES THAT LEASE EXCESS CAPACITY.....	128
X. THE COMMISSION SHOULD CONSOLIDATE ITS NEW TECHNICAL AND LICENSING RULES FOR MDS AND ITFS UNDER PART 27, CONSISTENT WITH ITS APPROACH FOR OTHER FLEXIBLE USE SERVICES.	132
XI. CERTAIN REVISIONS TO PART 1 OF THE RULES AND THE POLICIES APPLIED THEREUNDER WILL BE REQUIRED UPON CONSOLIDATION OF THE MDS RULES UNDER PART 27 OR PART 101.	135
A. MINOR REVISIONS TO SECTION 1.929 ARE REQUIRED TO REFLECT THE MBS LICENSING SCHEME.	135
B. THE COMMISSION SHOULD APPLY ITS POLICIES REGARDING WIRELESS RADIO SERVICE RENEWALS TO MDS/ITFS ON A PROSPECTIVE BASIS ONLY.....	137

C. THE COMMISSION SHOULD IMPOSE REGULATORY AND FILING FEES IN A MANNER CONSISTENT WITH CONGRESSIONAL DIRECTIVES AND CONSISTENT WITH ITS APPROACH TO SIMILAR SERVICES. 139

D. THE COMMISSION SHOULD ADOPT ITS PROPOSALS FOR THE ELIMINATION OF UNNECESSARY REGULATORY BURDENS..... 141

XII. THE COMMISSION SHOULD PERMIT ITFS LICENSEES TO BE ELIGIBLE FOR CARS STATION LICENSES. 144

XIII. CONCLUSION..... 145

EXECUTIVE SUMMARY

Eleven months ago, the Coalition Proposal was submitted by WCA, NIA and CTN, culminating months of effort during which one hundred entities devoted thousands of man-hours and substantial financial resources towards the development of a regulatory regime that will allow the most efficient and effective use of the MDS and ITFS spectrum. WCA, NIA and CTN remain fully committed to adoption of the Coalition Proposal. Adoption of the rules they proposed will result in the most rapid transition of the 2.5 GHz band to a home for broadband and other advanced wireless services, while still providing spectrum to meet the demonstrable need for high-power, high-site facilities in the band. While WCA, NIA and CTN concede that their proposed technical rules are more complex than the Commission has applied to other services, that complexity is absolutely necessary to maximize licensee flexibility while assuring deployed facilities receive an appropriate level of interference protection.

The Bandplan. The bandplan advanced in the Coalition Proposal, which designates 132 MHz at the ends of the 2.5 GHz band primarily for cellularized services and 42 MHz in the center of the band primarily for high-power, high-site services satisfies several essential industry needs. Unlike some of the alternatives advanced in the *NPRM*, it assures that an appropriate amount of spectrum (42 MHz) will remain available for services that can only viably be offered using high-power, high-site facilities. Yet, it also allows some or all of that 42 MHz of spectrum to be used for cellularized services under appropriate conditions. In addition, the proposed bandplan accommodates both TDD and FDD technologies and affords licensees the flexibility to deploy either technology and to migrate from TDD to FDD and back again in response to technological innovations and marketplace demand. The Coalition Proposal allows marketplace forces, rather than Commission fiat, to determine over time the best mix of services and technologies to be deployed over the 2.5 GHz band.

By placing the high-power, high-site segment in the center of the band, the Coalition Proposal is spectrally-efficient, as the spectrum required to separate the upstream and downstream transmissions in a FDD system is put to good use. In addition, locating the high-power, high-site segment in the center of the band will minimize relocation costs. Unlike alternatives proposed in the *NPRM*, the Coalition Proposal also maintains the I channels in a manner that provides protection against interference from radar operating above 2705 MHz and provides protection to passive earth exploration, radio astronomy and space research services.

The Transition to the New Bandplan. The Coalition Proposal advanced a carefully-crafted marketplace-based approach for transitioning to the new bandplan. Unlike the alternatives advanced in the *NPRM*, the Coalition Proposal addresses the difficulty the ITFS community would face if forced to fund its own transition to the bandplan. By deferring the transition of a market until a Proponent is willing and able to cover certain specified costs associated with transitioning ITFS to the new bandplan, the Coalition Proposal assures the necessary funding.

WCA, NIA and CTN's approach is designed to expedite transitions and avoid potential delays. WCA, NIA and CTN have agreed upon a system under which transitions can occur in as little as 90 days once a Proponent commences the process, which is far faster than alternatives proposed in the *NPRM* that could take years. At the same time, recognizing, as Chairman Powell

recently put it, that “infrastructure build-outs take time,” the Coalition Proposal does not force a premature transition to occur just for transition’s sake. WCA, NIA and CTN oppose the *NPRM*’s “command and control” suggestions that would force licensees to transition by a date certain. WCA, NIA and CTN’s proposed market-by-market approach allows capital to be directed where it is needed most – the markets where operators are ready to deploy services that will benefit from the new bandplan – without forcing premature expenditures in markets where service will not be immediately deployed.

The Proposed Technical Rules. The *NPRM* takes issue with several of the technical rules proposed by WCA, NIA and CTN on the grounds that they are more complex than the rules applied to other services. However, this is due to one simple fact – if service rules are to maximize licensee flexibility to deploy different technologies in response to market forces, any “one size fits all” technical rules either will be overly restrictive (affording unnecessary levels of protection in some instances) or will be under-protective (allowing interference to occur in some instances). The problems arise most often where non-synchronized technologies (those that do not transmit in the same direction, upstream or downstream, at the same time) are deployed either cochannel in nearby markets or on adjacent channels in the same market.

The proposed cochannel protection rules marry the traditional 47 dB μ V/m signal strength limit at the border employed for broadband PCS, for Part 27 services in the 2305-2320 and 2345-2360 MHz bands, and for Part 27 services in the 1390-1395 and 1432-1435 MHz bands with a concept specifically designed to address the use of non-synchronized technologies on opposite sites of a common border. This new, but carefully conceived, approach allows licensees to construct base stations without any height restriction. However, it only extends additional interference protection (beyond the 47 dB μ V/m received signal level limit) to those base station receive antennas that do not exceed certain specified heights relative to the distance to the border, and it requires the licensee of those base station transmission antennas that do exceed those heights relative to their distance to the border to make modifications to protect only those on the opposite side of the border that are not unduly tall. In other words, it provides “safe harbors” that promote, but do not require, the use of low-site base stations close to GSA borders to facilitate interference-free service. The net result of this approach is to provide a mechanism by which licensees can shield themselves from regulatory uncertainty, while encouraging licensees to engage in voluntary coordination. WCA, NIA and CTN believe the best approach to the problem of cochannel interference is for the affected licensees to enter into coordination agreements that are more narrowly tailored to their markets and business plans. Where such voluntary agreements are not forthcoming, however, a licensee that constructs its base stations near boundaries at or below its safe harbor height will have certainty that it will not have to make future modifications to protect a neighboring cochannel base station, no matter how that neighboring cochannel base station is designed. And, a licensee that has constructed its base station at or below its safe harbor height has certainty that it will be protected should a neighboring cochannel base station be constructed above its safe harbor height and cause actual interference.

One of the more difficult tasks faced by WCA, NIA and CTN in developing technical rules that support flexibility was the establishment of OOBE limits that would allow adjacent

channel operation without undue interference regardless of the technology deployed on adjacent channels, while at the same time keeping operator costs to a minimum. OOB base station limits along the lines of those imposed on broadband PCS licensees (who are required to attenuate OOB below the transmitter power (P_{watts}) by at least $43 + 10 \log(P_{\text{watts}})$ dB) will achieve that objective when adjacent licensees are operating synchronized systems. However, more stringent OOB limits are required to provide licensees with reasonable levels of interference protection where licensees exercise their flexibility and choose to deploy non-synchronized systems. Thus, the Coalition Proposal imposes a second, operational mask (one that can be met by guardbands or filtering) to be utilized only where necessary due to the use of non-synchronized technologies in a market. Under this approach a licensee must take such operational steps as are necessary to manage OOB of base stations located within the overlap area such that they are attenuated below the transmitter power (P_{watts}) by at least $67 + 10 \log(P_{\text{watts}})$ dB measured 3 MHz and beyond inside the frequency block of the requesting licensee (and to take certain additional steps where adjacent channel base stations are located in close proximity to one another). As with the co-channel safe harbor regime, an important objective of this dual mask proposal is to create strong incentives on the part of operators sharing adjacent channel edges to voluntarily coordinate their network designs and deployments.

The Commission should adopt the WCA, NIA and CTN proposal for establishing exclusive GSAs and for protecting individual receive sites that are outside of the GSA but within existing protected service areas. This would apply only to operations in the MBS, and grandfathering these ITFS receive sites will have no impact whatsoever on the deployment of cellular broadband facilities in the bands optimized for that purpose. The Coalition Proposal merely sustains the *status quo* with respect to the protection of these sites. The alternative would be the adoption of a rule that results in the loss of existing service to what are likely to be hundreds, if not thousands, of currently protected sites that happen to fall outside of the new GSAs. Grandfathering these receive sites would impose a small burden on licensees, and no burden on the Commission.

Unlicensed Operations in the 2.5 GHz Band. It is premature for the Commission to seriously consider authorizing unlicensed uses of the 2.5 GHz band either through opportunistic devices or low-power underlays. WCA, NIA and CTN do not dispute that these technologies may evolve to the point that, some day, licensees will elect to provide others with opportunistic or underlay access to licensed MDS/ITFS spectrum under conditions that address the potential for interference and provide licensees with compensation for the interference they suffer and the possible future innovations they may have to forego. However, the Commission should avoid precipitous action allowing unlicensed uses of the 2.5 GHz band that could undermine the evolution of the band as a home to wireless broadband. Rather than rush to judgments that could degrade the quality of licensed services and inhibit future technological advances that would increase operating efficiency or provide valuable new services to the public, the Commission should instead undertake a more comprehensive study of these evolving opportunistic and underlay technologies. Only when it is certain that these technologies can operate on a secondary, non-interfering basis and that such operations will not undermine innovation by licensees should the Commission seriously consider new rules allowing unlicensed operations in the band.

CPE Emissions. The Commission should adopt the pending proposal regarding the appropriate level of RF Gaussian noise that CPE should be permitted to emit. In addition, there is no reason for eliminating the current requirement that CPE be designed to only transmit when a base station is present.

Adjacent Channel Interference Protection Within The MBS. Currently, an applicant for a new or modified MDS or ITFS facility generally must establish that the predicted D/U signal strength ratio resulting from its proposal is greater than the lesser of 0 dB or the pre-application predicted D/U ratio with respect to any adjacent channel PSA or at any protected ITFS receive site. Given the widespread deployment of television receivers that can tolerate a -10 dB adjacent channel D/U signal ratio without suffering material signal degradation, WCA, NIA and CTN now agree that it would be overly-preclusive to retain the 0 dB standard to protect the relatively few television receivers still in use that require such a high level of protection.

Licensing of MDS/ITFS in the Gulf of Mexico. WCA, NIA and CTN do not agree with the Commission's decision to establish a Gulf Service Area in the absence of any indication that there is a demand for offerings that cannot be met by other spectrum-based services. Now that the Commission has decided to create a Gulf Service Area, the Commission must assure that the authorization of operations in the Gulf of Mexico not adversely impact the provision of land-based services using the 2.5 GHz band. Any operations in the Gulf must fully protect the existing BTAs (which extend into the Gulf to the county lines established by state law) and existing incumbent protected service areas (which are circular areas with 35 mile radii that extend well into the Gulf). Subject to those existing service areas, the Commission should limit the Gulf Service Area to the boundary of the US territorial waters (approximately 12 miles into the Gulf) and outward. The area between the Gulf Service Area and existing land-based service areas should be designated a Gulf Coastal Zone and both the Gulf Service Area and the land-based service provider should be permitted to offer service. Finally, the Commission must adopt special rules to address the propagation phenomenon called ducting, and assure that those rules both protect land-based systems and do not preclude land-based systems from actually serving areas near the coastline.

Construction and Performance Requirements. The Commission should adopt rules and policies with respect to construction deadlines, build-out requirements and temporary cessation of operations that are fundamentally fair to licensees, that reflect the philosophies governing flexible use, and that will promote the migration of service offerings to the highest and best use. More specifically, consistent with the approach taken with respect to flexible use services governed by Section 27.14 of the Rules, all current construction deadlines and build-out requirements should be replaced by a single substantial service requirement. In addition, the performance safe harbors applicable to the other flexible use services regulated under Part 27 should apply to MDS and ITFS.

To encourage licensees nearing renewal to take maximum advantage of service flexibility and to move spectrum to its highest and best use, an applicant should be entitled to a renewal expectancy upon demonstration that it has provided substantial service at some time during the term of its license, even if it is not providing sufficient service at the renewal "snapshot" to satisfy that test. While this approach should be adopted for all flexible use services, it is

particularly appropriate for MDS/ITFS, since many licensees will be approaching renewal in the next few years, and the Commission should encourage them to begin offering new broadband services immediately, rather than maintain obsolete facilities merely to qualify for renewal. Moreover, a given call sign should be entitled to renewal, even if the spectrum has not been utilized during the term of the license, so long as the call sign is part of a system that is providing substantial service and the spectrum at issue is either employed for a guardband or is being held in reserve by the system operator for expansion. The realities of the 2.5 GHz band demand that some spectrum be devoted to guardband, and that some be held in reserve for expansion – penalizing licensees that do so serves no public interest.

Consistent with other Part 27 flexible use services, the Commission should repeal the current MDS and ITFS rules subjecting licenses to cancellation if spectrum is not used for brief periods of time or if licensed facilities are temporarily dismantled.

The ITFS White Space. WCA, NIA and CTN object to the *NPRM*'s suggestion that the Commission might use the commons model, rather than license the ITFS white space. Unlicensed use of the white space threatens to cause significant interference to licensed services, particular because the technologies envisioned by the Commission to assure that unlicensed users not encroach on licensed territory are unproven. Moreover, and most importantly, unlicensed use of the 2.5 GHz band cannot be squared with the technical rules proposed by WCA, NIA and CTN to maximize flexibility, minimize interference and maximize spectral efficiency. Achievement of these objectives will require a degree of coordination among system operators, including the exchange of critical network design information and the making of design modifications where required that is inconsistent with unlicensed use of the ITFS white space.

While WCA, NIA and CTN are not objecting to the use of auctions to award the ITFS white space, pending mutually-exclusive ITFS applications that have achieved cut-off status under the current rules should be auctioned first without affording additional applicants an opportunity to participate.

There is a significant demand by existing licensees to secure the territory adjacent to their existing service areas for expansion on a licensed basis. Thus, where there are mutually-exclusive applications, the Commission should auction the ITFS white space on a channel group-by-channel group basis in order to match the likely needs of bidders. In addition, the Commission should utilize the same BTA geographic service areas for the ITFS white space as it has used for the MDS auction. However, given the unique nature of ITFS entities, the Commission should not award bidding credits or other special preferences to designated entities.

Finally, two-sided auctions are inappropriate for the 2.5 GHz band given the substantial consolidation and rationalization that has already occurred through secondary market mechanisms and the significant potential for delays in the deployment of broadband facilities. Indeed, OPP Working Paper No. 38 recognized that there has been a significant amount of spectrum leasing in the 2.5 GHz band that requires special consideration. Yet the *NPRM* is silent as to how a two-sided (or even a three-sided) auction can be structured consistent with current market conditions. If further consolidation and rationalization of spectrum positions proves necessary following the adoption of a new bandplan, leaving the matter to the private marketplace, without Government

intervention, will lead to the most efficient and effective results. By contrast, a Government-mandated restructuring auction with its attendant potential for litigation and the unavoidable anti-collusion rules is likely to delay the deployment of broadband services in the 2.5 GHz band.

International Considerations. No special rules are necessary to govern licensing of the 2.5 GHz band in areas near the Mexican and Canadian borders. However, new agreements with Mexico and Canada are essential for the 2.5 GHz band to reach its full potential in areas near the border. The current agreements are unduly restrictive and, in the case of the agreement with Mexico, do not even address two-way operations.

Restrictions On Providers Of Cable, DSL And CMRS Services. The *NPRM* solicits comment on whether the Commission should adopt cross-ownership or other restrictions on the eligibility of cable system operators, local exchange carriers or CMRS providers to own MDS licenses or to lease capacity of MDS and/or ITFS stations, and whether any MDS use for broadband service is prohibited by Section 613(a) of the Communications Act, as amended, which forbids cable ownership of MDS licenses with PSAs that overlap the cable franchise area. Given the broad range of services that can be provided over MDS and ITFS and the competitive nature of several of those markets, the Commission's own precedent and other factors confirm that the Commission should not impose any such restrictions beyond those on cable/MDS cross-ownership required by Section 613(a).

ITFS Programming Requirements. Currently, an ITFS licensee that engages in the leasing of excess capacity and that has digitized its operations is required to retain a minimum of five percent of the resulting digitized transmission capacity for educational programming. Although the Coalition Proposal did not suggest any revision to this requirement and the *NPRM* does not propose any revision for existing licensees, the *NPRM* does solicit public comment on whether it should impose a greater requirement on new ITFS licensees. WCA, NIA and CTN oppose that proposal. WCA, NIA and CTN are pleased that the *NPRM* is not proposing to make any changes with respect to the minimum educational programming requirements imposed upon existing ITFS licensees. Over the past five years, many commercial system operators and ITFS licensees have entered into spectrum lease agreements in compliance with the existing leasing rules, and the Commission should not, and cannot, interfere with those existing relations.

WCA, NIA and CTN do not support any change in the minimum leasing rule applicable to new ITFS licenses because new ITFS licenses are likely to be issued to existing ITFS licensees that decide to expand their service areas into the regions surrounding their GSAs. Imposing different minimum retention requirements on different licenses used by a single licensee to provide a single service imposes an unnecessary regulatory burden. In addition, if ITFS licensees are required to preserve significantly more capacity for their own use in the outlying ITFS white space, commercial operators may not be interested in building out ITFS facilities that will serve that white space. Finally, 5% of the capacity of a commercial digital system provides ITFS licensees with substantial educational capacity. Given that digital technology allows the transmission of multiple program "tracks" on a 6 MHz channel, an ITFS licensee that enters into a lease agreement that provides for digitization will have access to significantly more capacity than an ITFS licensee that continues to utilize analog technology and reserves 25% of its capacity for its own use.

Miscellaneous Regulatory Issues. The Commission should consolidate its new technical and licensing rules for MDS and ITFS under Parts 1 and 27, which have consistently been identified as the most appropriate set of rules for governing flexible use services. However, minor revisions to the definitions of “major” and “minor” in Section 1.929 are required to reflect the MBS licensing scheme. In addition, the Commission should apply its policies regarding renewals in Wireless Radio Service subject to ULS to MDS/ITFS on a prospective basis only. The Commission should impose regulatory and filing fees on MDS and ITFS in a manner consistent with Congressional directives and consistent with its approach to similar services. In addition, it should adopt the proposals in the *NPRM* for the elimination of unnecessary regulatory burdens. Finally, it should amend Part 78 to make ITFS licensees eligible for CARS authorizations so that video services delivered to their transmission facilities and other sites by commercial lessees can continue following the termination of wireless cable services.

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COMMENTS OF WCA, NIA AND CTN

The Wireless Communications Association International, Inc. ("WCA"), the National ITFS Association ("NIA") and the Catholic Television Network ("CTN"), by their attorneys, hereby submit their consolidated comments in response to the Commission's *Notice of Proposed Rulemaking* ("NPRM") in the captioned matter.¹

I. INTRODUCTION.

The *NPRM* solicits comment on the "Coalition Proposal," the October 7, 2002 white paper in which WCA, NIA and CTN advocated substantial changes to the regulatory regime

¹ *Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands*, 18 FCC 6722 (2003)[*"NPRM"*].

imposed by the Commission on the Multipoint Distribution Service (“MDS”) and the Instructional Television Fixed Service (“ITFS”).² In addition, the *NPRM* seeks comments on alternatives to the Coalition Proposal, as well as on several issues not addressed by WCA, NIA and CTN. WCA, NIA and CTN remain firmly committed to adoption of the Coalition Proposal, and will focus these comments on addressing those specific elements on which the *NPRM* expresses reservations.³ In addition, WCA, NIA and CTN will explain why the alternatives advanced by the *NPRM*, while perhaps attractive at first blush, will not advance the objective of putting the MDS and ITFS spectrum at 2500-2690 MHz to beneficial use, quickly, and in a spectrally-efficient manner. In a separate filing being made today, NIA and CTN will advance their opposition to the elimination of ITFS eligibility requirements as contemplated by Paragraphs 112-114 of the *NPRM*; WCA is not at this juncture advancing any opinion regarding that proposal.

As the issues raised by the *NPRM* are considered, WCA, NIA and CTN urge the Commission to keep in mind that the filing of the Coalition Proposal last October was the culmination of months of work during which over one hundred entities devoted thousands of man-hours and substantial financial resources towards the development of a regulatory regime

² “A Proposal For Revising The MDS and ITFS Regulatory Regime,” Wireless Communications Ass’n Int’l, Nat’l ITFS Ass’n and Catholic Television Network, RM-10586 (filed Oct. 7, 2002)[“Initial Coalition Proposal”]. Subsequent to October 7, 2002, WCA, NIA and CTN submitted two supplements that addressed issues left open in the original white paper and sought to clarify points that apparently had been misunderstood by some parties within the industry. See “First Supplement To ‘A Proposal For Revising The MDS And ITFS Regulatory Regime,’” RM-10586 (filed Nov. 14, 2002)[“First Coalition Supplement”]; “Second Supplement To ‘A Proposal For Revising The MDS And ITFS Regulatory Regime,’” RM-10586 (filed Feb. 7, 2003)[“Second Coalition Supplement”]. For simplicity’s sake, unless the context requires a different meaning, references to the “Coalition Proposal” in these comments should be read to reference all three filings.

³ As such, WCA, NIA and CTN will generally refrain from reiterating all of the various proposals set forth in the Coalition Proposal and the rationales therefore. Rather, WCA, NIA and CTN will address in their reply comments any elements of the Coalition Proposal that are objected to by other commenting parties and not discussed herein.

that will permit the most efficient and effective use of the MDS/ITFS spectrum. The proposals that were ultimately advanced by WCA, NIA and CTN had been the subject of intense scrutiny by commercial system operators, MDS and ITFS licensees, engineering consultants, lawyers, equipment vendors with fixed and mobile experience and the leadership of WCA, NIA and CTN. Not surprisingly, when the Wireless Telecommunications Bureau issued a *Public Notice* soliciting comment on the Coalition Proposal (the “*WTB Public Notice*”)⁴ commercial interests,⁵ educators,⁶ the technical community⁷ and the industry association representing rural telecommunications providers⁸ responded with enthusiasm. The widespread endorsement of the

⁴ “Wireless Telecommunications Bureau Seeks Comment On Proposal To Revise Multichannel Multipoint Distribution Service And The Instructional Television Fixed Service Rules,” *Public Notice*, DA 02-2732, RM-10586 (rel. Oct. 17, 2002).

⁵ See Comments of BellSouth and BellSouth Wireless Cable, RM-10586 (filed Nov. 14, 2002)[“BellSouth Comments”]; Comments of Clearwire Technologies, RM-10586 (filed Nov. 14, 2002); Comments of CNI Wireless, RM-10586 (filed Nov. 14, 2002); Comments of Digital TV One, RM-10586 (filed Nov. 21, 2002); Comments of IT&E Overseas, RM-10586 (filed Nov. 14, 2002); Comments of Maui Sky Fiber, RM-10586 (filed Nov. 21, 2002); Comments of Nucentrix Broadband Networks, Inc., RM-10586 (filed Nov. 14, 2002); Comments of Sprint, RM-10586 (filed Nov. 14, 2002); Letter from Thomas Knippen, W.A.T.C.H. TV, to Marlene H. Dortch, RM-10586, at 1 (filed Nov. 14, 2002); Comments of Winbeam, RM-10586 (filed Nov. 14, 2002); Comments of WorldCom Broadband Solutions, RM-10586 (filed Nov. 14, 2002).

⁶ See Joint Comments of Akron City School District and 45 Other ITFS Licensees, RM-10586 (filed Nov. 14, 2002); Comments of Atlanta Educational Services, *et al*, RM-10586 (filed Nov. 21, 2002); Comments of Archdiocese of Chicago, RM-10586 (filed Nov. 14, 2002); Comments of Archdiocese of Hartford, RM-10586 (filed Nov. 14, 2002); Comments of Archdiocese of Los Angeles, RM-10586 (filed Nov. 14, 2002); Comments of Archdiocese of Detroit, RM-10586 (filed Nov. 14, 2002); Comments of Catholic Telemedia Network, RM-10586 (filed Nov. 14, 2002); Comments of Caritas Telecommunications, RM-10586 (filed Nov. 14, 2002); Comments of Colorado State University, RM-10586 (filed Nov. 19, 2002); Comments of Counterpoint Communications, RM-10586 (filed Nov. 20, 2002); Comments of Department of Education, Archdiocese of New York, RM-10586 (filed Nov. 14, 2002); Comments of Diocese of Dallas, RM-10586 (filed Nov. 14, 2002); Comments of Diocese of Orange, RM-10586 (filed Nov. 14, 2002); Comments of Roman Catholic Diocese of Rockville Centre, RM-10586 (filed Nov. 14, 2002); Comments of Texas State Technical College, RM-10586 (filed Nov. 21, 2002); Comments of the University of Colorado, RM-10586 (filed Nov. 20, 2002).

⁷ See Comments of Clearwire Equipment, RM-10586 (filed Nov. 14, 2002); Comments of ComSpec, RM-10586 (filed Nov. 21, 2002); Comments of IPWireless, Inc., RM-10586 (filed Nov. 14, 2002); Comments of Kessler & Gehman, RM-10586 (filed Nov. 14, 2002); Comments of Navini Networks, RM-10586 (filed Nov. 14, 2002); Comments of Nokia, RM-10586 (filed Nov. 21, 2002); Comments of QUALCOMM, RM-10586 (filed Nov. 14, 2002).

⁸ Comments of the National Telecommunications Cooperative Ass’n, RM-10586 (filed Nov. 14, 2002).

Coalition Proposal demonstrates that it is a firm foundation on which the final rules can be constructed.

Moreover, as the Commission considers the merits of the Coalition Proposal, it should not lose sight of the fact that the Coalition Proposal is congruent with many of the recommendations of the *Report of the Spectrum Policy Task Force* (“*SPTF Report*”) that was released a month after the Coalition Proposal was filed.⁹ Although WCA, NIA and CTN certainly do not endorse all of the proposals advanced in the *SPTF Report*,¹⁰ adoption of the Coalition Proposal will achieve the Task Force’s objectives of “maximum feasible flexibility of spectrum use,” “grouping of spectrum ‘neighbors’ with technically compatible characteristics,” “[c]learly and exhaustively defin[ing] of spectrum users’ rights and responsibilities,” and providing “incentives for efficient spectrum use.”¹¹ As the *NPRM* notes, on occasion the technical rules proposed by WCA, NIA and CTN depart from Commission precedent. However, the Spectrum Policy Task Force found that Commission precedent has failed to achieve the objective of promoting flexible spectrum use. A new regulatory regime featuring somewhat more complex interference protection rules is required if licensees truly are to deploy the widest possible variety of services in the 2.5 GHz band as expeditiously as possible. The discussion below demonstrates that, while novel, the interference protection rules advanced by WCA, NIA and CTN are essential, particularly if licensees in the 2.5 GHz band are to have the flexibility to deploy time division duplex (“TDD”) and/or frequency division duplex (“FDD”) technologies

⁹ *Spectrum Policy Task Force Report*, ET Docket No. 02-135 (Nov. 2002) [“*SPTF Report*”].

¹⁰ Indeed, as discussed *infra* in Sections IV.E and VII.F, WCA, NIA and CTN object to any notion that it might be appropriate to experiment with MDS and ITFS as guinea pigs for some of the more untested theories advanced in the *SPTF Report*.

¹¹ *Id.* at 4, 15-16.

and to switch between them in response to the ebbs and flows of marketplace demand and technical innovation.

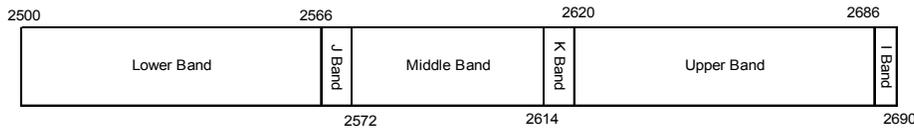
II. THE COMMISSION SHOULD ADOPT THE BANDPLAN PROPOSED BY WCA, NIA AND CTN.

The central component of the Coalition Proposal is a revised bandplan that solves a variety of thorny technical and regulatory problems both by physically separating high-power, high-site downstream operations from two-way cellularized operations and by deinterleaving frequency assignments.¹² Essential to the Coalition Proposal bandplan is the establishment of three major band segments – the Lower Band Segment (“LBS”) with twelve 5.5 MHz wide channels extending from 2500-2566 MHz, the Mid Band Segment (“MBS”) with seven 6 MHz wide channels extending from 2572-2614 MHz, and the Upper Band Segment (“UBS”) with twelve 5.5 MHz wide channels extending from 2620-2686 MHz, with 6 MHz Transition Bands on either side of the MBS.¹³ The Coalition Proposal’s new 2.5 GHz band plan is illustrated as follows:

¹² See Initial Coalition Proposal at 12-19.

¹³ The *NPRM* asks why the Coalition Proposal calls for LBS/UBS channels of 5.5 MHz. See *NPRM*, 18 FCC Rcd at 6738 n.83. The answer is rather simple. A fundamental objective was to assure that both before and after a transition, each licensee holds the same quantity of spectrum. See Initial Coalition Proposal at 12. However, as the Commission recognizes in the *NPRM*, if there is to be a segment of the band devoted to high-power, high-site operations (*i.e.*, a MBS), there must be spectrum separation between that segment and the segments used for cellular services (*i.e.*, the LBS and the UBS). See, *e.g.* *NPRM*, 18 FCC Rcd at 6745. The Coalition Proposal provides for such separation by inserting on either end of the MBS what are called Transition Bands – 6 MHz segments that will provide the requisite separation between cellular services and high-power, high-site services. WCA’s Technical Task Group concluded that a 6 MHz separation between MBS operations and two-way services is required in order to protect reception of MBS video signals and to protect reception of upstream signals at cellular base stations from interference caused by MBS transmissions. More specifically:

- Analog television sets employed to receive MBS signals must be protected against the beat visibility curve. Since signals closer than 6 MHz of sufficient amplitude are likely to produce a visible beat, separation of LBS/UBS transmissions by at least 6 MHz was required;
- An operational mask is required under which licensees of LBS/UBS/J/K/I channels must manage their out-of-band emissions (“OOBE”) to protect MBS operations. This mask is discussed in further detail *infra* in



Section IV.B. Separations of 6 MHz between the MBS and the highest LBS channel and the lowest UBS channel is required in order for the licensees of those LBS/UBS channels to meet the OOB without incurring a substantial burden;

- Following transition, each ITFS receive site will need to be outfitted with a more linear downconverter designed to prevent brute force overload caused by nearby consumer transmitters. *See* Coalition Proposal, App. B at 5-7. Given the limitations of current filter technology, the need to avoid insertion losses, group delay (digital) and differential phase and gain distortion, and the desire to keep downconverter costs within a range affordable by ITFS licensees, a 6 MHz separation is required to protect those improved downconverters from brute force overload; and
- A 6 MHz separation will protect cellular systems in the LBS and UBS against the accumulated noise interference from high-power transmissions within the MBS.

By contrast, reducing the size of the Transition Bands would require the installation of unduly expensive downconverters or the imposition of highly-restrictive limits on out-of-band emissions by the licensees of new channels D3, A4, G4 and E1, thus doing violence to the proposition that no individual licensee should be unduly constrained by the requirements of interference protection at segment edges.

The need for these Transition Bands, which serve as guardbands but can be used to provide service (albeit subject to restrictive technical requirements designed to protect the LBS, MBS and UBS), raised an obvious question – who contributes the spectrum? Although the Transition Bands fall exactly on current channels D2 and F2, WCA, NIA and CTN concluded that it would be fundamentally unfair to leave the licensees of the D and F channel groups with less spectrum that can be used for cellular services compared to the licensees of other groups. Thus, they decided that each licensee should contribute some spectrum towards the two Transitions Bands. They did so recognizing, as the Commission itself has acknowledged, that although 6 MHz channelization is required to comply with television standards, “[n]either the high power levels nor the preconfigured 6 megahertz spectrum blocks characteristic of conventional television services are necessary...for the flexible range of existing and contemplated wireless services.” *Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission’s Rules*, 15 FCC Rcd 476, 484-85 n.43 (2000)[“Upper 700 MHz First R&O”]. Because the MBS must continue to support ITFS analog video services, the seven channels in the MBS had to remain 6 MHz wide. Thus, it was decided to take 500 kHz from each of the remaining twenty-four channels (for a total of 12 MHz) for the Transition Bands, leaving each of those channels with a 5.5 MHz bandwidth. Thus, the typical current licensee of four channels will secure upon transition a contiguous 16.5 MHz of spectrum in the LBS or UBS, 1.5 MHz of spectrum in one of the Transition Bands, and one 6 MHz channel in the MBS.

It is important to emphasize that the Coalition Proposal is not proposing any change in the current MDS rules allowing a licensee (either alone or in conjunction with adjacent spectrum licensees) to subchannelize or superchannelize their authorized spectrum. *See* Initial Coalition Proposal at 13 n.32. Thus, the 5.5 MHz channelization used for licensing purposes will have no bearing on the channelization actually used by system operators when providing service. Licensees will continue to have the flexibility to subdivide a channel or to combine adjacent channels. And, as discussed *infra* at Section II.G, the Commission should permit licensees to disaggregate portions of their spectrum. *Thus, the 5.5 MHz channelization will merely be a starting point, and licensees will have the flexibility through subchannelization, superchannelization and disaggregation to employ whatever channel size best meets their needs.*

Following transition to the proposed new bandplan, in general each licensee will receive 16.5 MHz of contiguous spectrum in the LBS or UBS, a 6 MHz channel in the MBS, spectrum in the J or K segments and the spectrum in I channel band (although WCA, NIA and CTN envision an active secondary market that likely will result in licensees securing different combinations through swaps and purchases in order to more precisely meet their particular needs).¹⁴

There are numerous public interest benefits that support adoption of the Coalition Proposal bandplan over the alternatives advanced in the *NPRM*. In the following sections, WCA, NIA and CTN review the benefits and explain why the alternatives before the Commission should be rejected.¹⁵

A. The Coalition Bandplan Accommodates The Widest Array Of Possible Network Designs, And Allows The Marketplace To Determine The Best Uses Of Each Band Segment.

In his separate statement supporting adoption of the *NPRM*, Chairman Powell correctly noted that “[t]he 2.5 GHz band has labored for years under the heavy hand of command-and-control regulation” and that “[t]he regime has not served the American people or the Commission’s licensees particularly well.”¹⁶ Consistent with the general philosophy embodied in the *SPTF Report* that “[s]pectrum users should be allowed to choose the technology that is

¹⁴ See Initial Coalition Proposal at 12-13.

¹⁵ Several of the benefits of the Coalition Proposal bandplan would also be achieved under any of the variants proposed in the *NPRM*. Most significantly, by designating a separate band for cellular operations, the Coalition Proposal, as well as the alternatives suggested in the *NPRM*, will protect cellular services from interference and allow the Commission to eliminate rules that have imposed debilitating licensing costs and delays on cellular operations. See Initial Coalition Proposal at 13-14. Therefore, WCA, NIA and CTN will refrain from addressing those benefits of the Coalition Proposal in detail here.

¹⁶ *NPRM*, 18 FCC Red at 6858 (Separate Statement of Chairman Michael K. Powell). See also *id.* at 6859 (Separate Statement of Commissioner Kathleen Q. Abernathy)(“Many licensees have repeatedly told us of the many regulatory hurdles they face when attempting to deploy the new, innovative services demanded by the market. Today’s *NPRM* is a step-forward to resolving many of these issues by seeking ways to promote greater flexibility for licensees.”).

best-suited to their proposed use or service,”¹⁷ the bandplan submitted by WCA, NIA and CTN replaces Commission command and control with marketplace forces to the maximum extent possible. Significantly, the bandplan (i) supports both those services that are best offered over low-power cellular networks and those services that are best offered over high-power, high-site facilities, and (ii) affords licensees the flexibility to deploy TDD and/or FDD technologies and to freely switch between them over time in response to technical innovation and changes in marketplace demand. Under the Coalition Proposal, it is the marketplace, rather than Commission fiat, that determines the best mix of such services and technologies in the 2500-2690 MHz band over time.

i) The WCA, NIA and CTN Bandplan Generally Separates High-Power, High-Site Operations From Cellular Services, While Providing Licensees Flexibility Under Appropriate Circumstances.

It is beyond dispute that there is a substantial demand for use of the 2500-2690 MHz band for services best offered over cellularized networks.¹⁸ As proposed by WCA, NIA and CTN, the 132 MHz of spectrum allocated to the LBS and the UBS will be subject to technical and licensing rules designed to facilitate the use of those bands for cellularized operations.¹⁹ To maximize licensee flexibility, however, the Coalition Proposal also provides licensees with the

¹⁷ *SPTF Report* at 17.

¹⁸ *See, e.g. supra* notes 5 and 7.

¹⁹ The *NPRM* questions whether even more spectrum should be designated for low-power, cellular operations. *See NPRM* at 6747. WCA, NIA and CTN do not believe so – if the Coalition Proposal is adopted, the LBS/UBS would be larger than the current broadband PCS allocation and would be highly-substitutable with the 90 MHz of Advanced Wireless Service spectrum recently allocated at 1710-1755/2110-2155 MHz. *Amendment of Part 2 of the Commission’s Rules to Allocate Spectrum Below 3GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, Including Third Generation Wireless Systems*, 17 FCC Rcd 23193 (2002).

ability under appropriate circumstances to offer services using high-power, high-site facilities in the LBS/UBS if that is what the marketplace demands.²⁰

Conversely, the Coalition Proposal calls for the MBS to be subject to technical and licensing rules amenable to continuation of high-power, high-site downstream operations. As is discussed in detail *infra* in Section II.B, in many parts of the country there are continuing needs for services best offered over high-power, high-site facilities and thus it is essential to preserve a band segment where such services can be offered. Under the Coalition Proposal, those needs are reasonably accommodated in the MBS. However, the Coalition Proposal also provides two mechanisms through which the MBS can be used for cellularized communications.

First, the Coalition Proposal provides that a MBS channel can always be used for downstream data transmissions in a low-power cellularized FDD system, so long as the licensee operates in compliance with the MBS licensing, operational and technical rules.²¹ While it is generally assumed that most of the MBS will be used for downstream video transmissions at least initially, the Coalition Proposal does not impose any restriction on the transmission of downstream voice or data in the MBS, any limit on the number of downstream transmitters (*i.e.*, cells) that a MBS licensee can deploy in its service area, or any minimum power level. Thus,

²⁰ The Coalition Proposal does not call for any absolute limit on transmission antenna height and proposes no change in the current maximum EIRP for MDS and ITFS base stations in the LBS/UBS. *See* Initial Coalition Proposal at 25. Thus, a licensee that meets the service area boundary signal strength and other limitations designed to protect other licensees from interference, or secures the consent of any potentially-affected licensee can operate a high-power, high-site facility in the LBS/UBS. As discussed in the reply comments submitted by WCA, NIA and CTN in response to the *WTB Public Notice* and reiterated below in Section II.F.iii), allowing continued operation of high-power, high-site operations on LBS/UBS channels under appropriate conditions is essential to accommodate current wireless cable system operators who (in the case of analog systems) can continue to operate without any adverse impact on cellular operations or (in the case of digital systems) to preserve the equities of those who have invested significant sums in furtherance of the Commission's prior objectives for the band. *See* Reply Comments of WCA, NIA and CTN, RM-10586, at 6-7, 27-30 (filed Nov. 29, 2002)[“Coalition Reply Comments”]; First Coalition Supplement at 4-5.

²¹ Such a channel could be paired with a LBS channel, or spectrum outside the 2.5 GHz band.

there is no impediment to the use of the MBS for downstream transmissions as part of a cellularized FDD system, subject to compliance with the MBS licensing and technical rules.

Second, the Coalition Proposal includes a mechanism by which a licensee can utilize a MBS channel under the same rules and policies that are applicable to the LBS and UBS (including using the channel for upstream communications and operating without site-by-site licensing). Specifically, WCA, NIA and CTN proposed that:

the licensee of an MBS channel should be permitted to utilize that spectrum in accordance with the LBS and UBS rules so long as it receives written consent from: (i) every MBS licensee with a transition impact area (“TIA”) . . . that overlaps or is within six miles of the licensee’s own Geographic Service Area (“GSA”) . . . ; and (ii) every cochannel MBS licensee with GSA center coordinates that are within 100 miles of the GSA center coordinates of the licensee proposing to operate under the LBS/UBS rules.²²

Adoption of this proposal will allow MBS spectrum to be utilized in an efficient manner responsive to marketplace forces while at the same time assuring that one of the basic purposes of the bandplan – protecting traditional ITFS operations from cochannel, adjacent channel and brute force overload interference – is not compromised.

ii) The Coalition Proposal Affords System Operators The Flexibility To Offer TDD And/Or FDD Services, And To Routinely Switch Between The Two Technologies In Response To Technical Innovation And Marketplace Demands.

To retain the flexibility contained within the current rules, WCA, NIA and CTN have proposed that the LBS and UBS band segments be available for both TDD and FDD technologies, and that there be no restriction on the ability of licensees to routinely switch between TDD and FDD technologies in response to technical innovation and changes in

²² Initial Coalition Proposal at 17.

marketplace demand.²³ Of the many possibilities considered by WCA's Technical Task Group, this bandplan, coupled with WCA, NIA and CTN's proposed technical rules, best provides licensees with the capability of providing either FDD or TDD services.²⁴

²³ See Initial Coalition Proposal at 15. In response to the inquiry in Paragraph 54 of the *NPRM* as to whether any special rules should apply to any particular segment, it should be noted that, for the reasons set forth in the Coalition Proposal, WCA, NIA and CTN are proposing that when the LBS is used for FDD communications, it be restricted to subscriber-to-base traffic and that when the UBS is used for FDD communications, it be restricted to base-to-subscriber traffic. See *id.* at 16. Designating the direction of communications when operating in an FDD mode will provide the vendor community with a degree of certainty as to the band usage that will translate into lower equipment costs and smaller equipment form factors (particularly for devices designed to roam between service areas). In addition, such a designation will simplify adjacent channel coordination, resulting in greater spectral efficiency as the potential is reduced for systems to be using adjacent spectrum in opposite directions. Also, downstream communications will be more resistant to interference from radar systems operating above 2700 MHz (which are discussed *infra* in Section II.D) compared to upstream communications. Finally, the use of the lower band for upstream traffic allows the less powerful subscriber units to take advantage of the somewhat better propagation characteristics in the LBS. Since an FDD system operator will be required to secure spectrum in both the LBS and the UBS in order to provide a cellular service in the segments targeted for that use, designating the direction of communications in each of the two segments should not adversely impact the ability of any system operator to deploy its service. In WT Docket No. 02-353, in which the Commission is considering service rules for the newly-allocated Advanced Wireless Communications ("AWS") spectrum at 1.7/2.1 GHz, the Commercial Mobile Radio Service ("CMRS") community has uniformly called for the Commission to limit the 1.7 GHz portion of the band pair to upstream communications and to limit the 2.1 GHz portion of the band pair to downstream communications. See Comments of Motorola, Inc., WT Docket No. 02-353, at 2-5 (filed Feb. 7, 2003); Comments of Verizon Wireless, WT Docket No. 02-353, at 5-6 (filed Feb. 7, 2003); Comments of Cellular Telecommunications Internet Association, WT Docket No. 02-353, at 14 (filed Feb. 7, 2003).

²⁴ WCA, NIA and CTN are aware that in recent weeks ArrayComm, Inc. ("ArrayComm") has discussed with the staff an alternative proposal under which licensees would, through some unspecified mechanism, elect at transition whether they will provide TDD or FDD services. Under this approach, the Commission will issue licenses such that the FDD licensees will be contiguous to one another in the lower portion of the LBS and the UBS and the TDD licensees will be in two contiguous blocks at the upper end of the LBS and the UBS. See Letter from Leonard S. Kolsky to Marlene Dortch, WT Docket No. 03-66 (dated Aug. 25, 2003). Many of the specifics of the ArrayComm proposal are unknown, and WCA, NIA and CTN will address the ArrayComm proposal in detail in its reply comments in the event ArrayComm submits formal comments in response to the *NPRM*. Suffice it to say for present purposes that *WCA, NIA and CTN are opposed to the ArrayComm proposal because it prevents licensees from switching between TDD and FDD once an initial election is made at transition.* MDS and ITFS licensees currently enjoy this flexibility, and the Commission provided the flexibility to utilize TDD or FDD, and to switch between the two, in a variety of new flexible use services. See, e.g. *Reallocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59)*, 17 FCC Rcd 1022, 1051-52 (2002) ["Lower 700 MHz R&O"]; *Amendment of the Commission's Rules With Regard to the 3650-3700 MHz Government Transfer Band*, 15 FCC Rcd 20488, 20496 (2000) ["3650-3700 First R&O and Second NPRM"]. Indeed, system operators that initially deployed first generation broadband services (which uniformly utilized FDD technology) have been converting to second generation technology that is predominantly TDD. Thus, MDS/ITFS licensees and system operators believe it is essential to retain continued flexibility here.

By placing the MBS in the center of the band as proposed by WCA, NIA and CTN, the Commission can best balance the competing objectives of flexibility, spectral efficiency and minimizing cost of implementation. The proposed bandplan provides for the possible use of 132 MHz of spectrum for symmetrical FDD services, as there will be 66 MHz in each of the LBS and the UBS.²⁵ As the Commission is well-aware, FDD technology requires a separation between the highest frequency used in one direction and the lowest frequency used in the other.²⁶ Adequate bandgap separation is achieved under the Coalition Proposal by placing a 42 MHz MBS and the 6 MHz Transition Bands between the LBS and the UBS.

Thus, the proposed placement of the MBS in the middle of the band serves a dual purpose. It provides capacity to meet the continuing demand for high-power, high-site services that is discussed *infra* in Section II.B, and serves as the required FDD duplex separation, thereby avoiding the need for FDD system operators to set aside additional spectrum for that purpose. As discussed *infra* in Section II.F.ii), if the high-power, high-site services are relegated to one end of the 2.5 GHz band, an entity looking to deploy an FDD technology will be required to set aside additional cellular-friendly spectrum for the duplex separation – an approach that is far less spectrally efficient.²⁷ As a result, the proposed bandplan does an effective job of maximizing the

²⁵ As noted in the *NPRM*, the Coalition Proposal does not call for any formal pairing of the channels. *See NPRM*, 18 FCC Rcd at 6781-82. To the extent that FDD technologies are deployed, the vendor community likely will develop equipment in which the A Group is paired with the E Group, the B Group with the F Group, the C Group with the H Group and the D Group with the G Group such that there is the same 120 MHz separation between each pair. However, WCA, NIA and CTN also recognize that system operators may not necessarily have access to both portions of such pairs, and that with coming developments in radio technology (such as software defined radio), the use of pairs with consistent separation may not be necessary. Thus, WCA, NIA and CTN do not believe that the Commission should require the use of any particular pairs.

²⁶ *See NPRM*, 18 FCC Rcd at 6781-82.

²⁷ It is also worth reiterating that while placing the high-power, high-site channels in the middle of the band may force some additional spectrum to be used for a Transition Band, that spectrum is contributed by every licensee (500 kHz for every channel in the LBS or UBS). *See supra* at note 13. Thus, the contribution of spectrum to the

amount of spectrum that can be used for FDD services. Indeed, as discussed *infra* at Section II.F, the Coalition Proposal's call for a single central MBS is far more efficient than the alternatives advanced in the *NPRM*.

While the proposed bandplan accommodates FDD technology, it is well-designed for TDD applications, which is an essential requirement given that most of the second generation MDS/ITFS broadband technologies being deployed today utilize TDD. Under the Coalition Proposal, most current licensees will receive 16.5 MHz of contiguous spectrum in the LBS or UBS that can readily be used for TDD operations. That is a vast improvement over the current interleaved bandplan, under which each licensee has just 6 MHz of contiguous spectrum and one's ability to deploy a TDD system is subject to veto by an interleaved licensee.²⁸ System operators will be able to aggregate up to 66 MHz of contiguous spectrum in each of the LBS and the UBS for TDD services, for a total of 132 MHz. In markets where the MBS is made available for TDD services under the proposed consent process, all of the 190 MHz at 2.5 GHz will be available for TDD services.

B. The Proposed Bandplan Accommodates the Needs of Educational and Commercial Licensees to Provide Video and Data Services on a Wide Area Basis.

While the Coalition Proposal reduces the amount of spectrum regulated to promote high-power, high-site applications from 190 MHz to 42 MHz – a reduction of over 77% – the *NPRM* suggests that it might not be necessary “to reserve a portion of this band in the long term to

Transition Band is a price that every licensee pays for maintaining flexibility, and it avoids requiring FDD operators to set aside larger amounts of their own spectrum to meet the duplex separation requirement necessary for FDD operations. And, licensees of spectrum in the transition bands can still use that spectrum on a secondary, non-interfering basis for any number of possible applications.

²⁸See Initial Coalition Proposal at 9-10, 14-15.

accommodate high power services.”²⁹ WCA, NIA and CTN disagree. At the outset, it must be emphasized that no segment is “reserved” for high-power, high-site services under the Coalition Proposal. As noted above, the MBS is designed to accommodate those services, while still being available for cellularized applications under appropriate circumstances.³⁰ Moreover, to answer the question more directly, there is both a present and a continuing need to preserve channel capacity on which high power services can be readily accommodated.

The continuation of high-power, high-site operations in the 2.5 GHz band is critical to the many educators across the country using high-power, high-site facilities to broadcast video instructional and educational programming on which both teachers and students rely. High-power, high-site broadcasting is the only currently affordable and effective means to deliver this programming in most instances. Shutting down high-power, high-site operations – which is the inevitable practical result if the MBS is not included in the bandplan – is not an acceptable option. As is explained in detail in the Coalition Proposal, the MBS was designed to accommodate the continued operation of ITFS educational video services, and to do so in a manner that promotes a swift and inexpensive transition to the new bandplan.³¹

It is widely recognized that technology can contribute to the redesign of the educational process, and that the resulting reduction in the unit cost of education is important to our nation’s future.³² Secretary of Education Roderick Paige recently observed that the “way we organize

²⁹ See *NPRM*, 18 FCC Rcd at 6747.

³⁰ See *infra* at Section II.A.

³¹ See Initial Coalition Proposal at 14-19; see also Coalition Reply Comments at 5-9.

³² See e.g., *Building a Nation of Learners*, at 25 (“If used by teachers in ways commensurate with its promise, technology can be an effective tool in redesigning education. At the same time, if enough investments are made in infrastructure, higher education can make change on the scale needed.”).

schools and provide instruction is essentially the same as it was when our Founding Fathers went to school.... [W]e still educate our students based on an agricultural timetable, in an industrial setting, yet tell students they live in a digital age.”³³ Existing high-power, high-site ITFS operations are an integral part of our nation’s effort to redesign education. While there is no doubt that low power cellular operations in the 2.5 GHz band also will prove to be extraordinarily useful for education, the deployment of cellular networks will not eliminate the need for high-power, high-site ITFS broadcast operations.

In ET Docket No. 00-258, the Commission was provided with extensive information concerning how ITFS licensees use spectrum in the 2.5 GHz band for educational and instructional purposes.³⁴ Additional descriptions of how the 2.5 GHz band is used effectively for educational purposes will be provided to the Commission in this proceeding. These descriptions provide compelling evidence of the continuing need for, and importance of, high-power, high-site operations in the 2.5 GHz band.

As a practical matter, these educational services are viable only if there is a band segment (such as the MBS) to which high-power, high-site facilities can migrate. If high-power, high-site operations are eliminated, then existing wide area video and data distribution facilities would have to be replaced with multiple, low-power, low-elevation cell sites. The use of low-power, low-elevation cell sites is not practical for many educational licensees because, not only do the multiple cells themselves have to be acquired, leased and constructed, but an infrastructure of

³³ Roderick Paige, “Visions 2020: Transforming Education and Training Through Advanced Technologies,” introduction, available at <http://www.technology.gov/reports/TechPolicy/2020Visions.pdf>.

³⁴ See *Amendment of Part 2 of the Commission’s Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, Including Third Generation Wireless Systems*, 16 FCC Rcd 17222 (2001).

fiber optic or coaxial cable links would be needed to distribute programming to each of the cell sites. The cost of building such an infrastructure would be prohibitive for many in the educational community, particularly for areas outside of major metropolitan areas.³⁵

In the final analysis, the existing ITFS architecture -- which consists of high-power, high-elevation broadcast facilities with line-of-sight to the maximum number of locations -- is the most cost-effective means of distributing video and data programming to a large number of receive sites. In addition, because the incremental cost of adding new receive sites is minimal, the high power architecture permits educators to serve new sites without incurring significant new costs. In contrast, when a cellularized system operator needs to extend service to a new area, a new cell site needs to be installed, and a means of interconnecting that new site to the network has to be put into place. As commercial mobile radio service operators know, this is an expensive proposition.

Moreover, although the primary objective of the MBS is to provide a segment in which the high-power, high-site needs of the ITFS community can be addressed, a MBS regulated to accommodate high-power, high-site usage will also provide a valuable resource for many commercial system operators. For example, in a market where an existing analog multichannel video programming distributor ("MVPD") undergoes a transition to the new bandplan, that MVPD system will be able to continue (and in many cases expand) its current operations by

³⁵ The Commission also should recognize that the necessary carrier to noise ratio at each ITFS receive site must be in the 40-50 dB range for acceptable analog picture quality or in the 26-32 dB range for acceptable digital picture quality. Because commercial cellular broadband networks will likely be designed to operate at substantially lower signal to noise ratios, an ITFS licensee will not be able to merely "piggyback" on the base station deployment of commercial system operators to deliver traditional video programming. Rather, many more base stations will be required to meet the ITFS licensee's video transmission needs.

digitizing its service and transmitting over the MBS channels.³⁶ Alternatively, a commercial system operator may utilize the MBS for downstream data transmissions in an FDD system, paired with channels in the LBS or elsewhere. Indeed, it is this configuration that will allow current first generation broadband systems (many of which serve rural areas) to continue operations with only minimal disruption in those cases where the base station design would not comport with the proposed new rules applicable to the UBS and thus UBS channels could not be used without network design modifications.

C. The Size And Location Of The Proposed MBS Strikes The Right Balance Between The Need For High Power And Low Power Services In The Band, And Minimizes Relocation Costs.

In evaluating the bandplan proposed by WCA, NIA and CTN, it is essential to recognize that the proposed 42 MHz wide MBS meets three important objectives: (i) it strikes the proper balance between the needs of various licensees for spectrum optimized for high-power, high-site transmissions and the demand for spectrum for cellular services; (ii) it promotes spectral efficiency by serving as the required separation between the upstream and downstream spectrum in FDD systems; and (iii) it minimizes relocation costs by maintaining the specific frequencies assigned each 6 MHz MBS channel identical to one of the current 6 MHz channels.

In response to the *WTB Public Notice* soliciting comment on the Coalition Proposal, the proposed bandplan, including the 42 MHz MBS, received overwhelming support. Ironically, while a few parties expressed concern that the proposed MBS was too large in size,³⁷ others

³⁶ See Coalition Reply Comments at 29.

³⁷ See, e.g., Comments of Clarendon Foundation, RM-10586 (filed Nov. 18, 2002).

expressed concern that there would not be sufficient MBS capacity available for their needs.³⁸

The overwhelming support for the proposed 42 MHz MBS, coupled with the wide differences in opinion among those few who disagree, supports the view that seven 6 MHz channels is just right.

It should be re-emphasized that substantial consideration was given to reducing the size of the MBS on a market-by-market basis and thereby increasing the amount of spectrum in the LBS and UBS immediately available for cellular services depending on local preferences. However, it was concluded that for at least five reasons, the benefits of a fixed, nationwide 42 MHz wide MBS far outweigh any possible benefits associated with a market-by-market approach. As discussed in the Coalition Proposal:

First, the certainty of a fixed MBS translates directly into less complex, less expensive cellular system equipment, particularly customer equipment. Knowing precisely where the MBS and Transition Bands will be located allows vendors to better filter those potentially interfering signals, while keeping customer equipment size and cost at competitive levels. Second, any channels that could be reclaimed for cellular use on a market-by-market basis would, as a practical matter, not be available for use by FDD systems. The FDD vendor community has made clear to the WCA Technical Task Group that for equipment costs to be competitive, MDS/ITFS FDD systems will have to utilize a nationwide bandplan so that the duplex filter in customer devices can be standardized. As a result, any MBS channels that might be freed up in a given market likely would not be included in the range of frequencies used by FDD customer equipment. Third, market-by-market resizing of the MBS would substantially increase the cost of the downconverters that will have to be installed to receive transmissions within the MBS, as special downconverters would have to be manufactured for each MBS of non-standard size. Thus, a market-by-market determination of MBS size would not only increase the initial cost of transitioning to the new bandplan, but also would place increased ongoing costs on ITFS licensees who likely will be required to purchase additional downconverters as their MBS systems expand. Fourth, while reclaimed MBS channels perhaps could be deployed for TDD in

³⁸ See, e.g., Comments of the Board of Trustees of Leland Stanford Junior University, RM-10586, at 4 (filed Nov. 14, 2002).

some markets, those channels would be subject to cochannel interference from high-power, high-site operations within the MBS in neighboring markets. Finally, any device (whether TDD or FDD) designed to receive the signals of channels reclaimed from the MBS in one market would be highly vulnerable to interference when roaming into other markets – because the reclaimed channel(s) would not be filtered by the device, when in a roaming market the device would receive any high-power MBS signal transmitted by the local licensee of that particular channel. The result likely will be interference that renders the customer device unusable when roaming. Not only did the vendors participating in WCA’s Technical Task Group express a strong reluctance to produce equipment usable only in some markets, but operators have made clear that roaming is a critical requirement and that equipment incapable of being used nationwide is unlikely to be deployed.³⁹

Given that the size of the MBS must be fixed nationwide (a proposition that was not seriously disputed by any response to the *WTB Public Notice*), WCA, NIA and CTN sought to identify an appropriate bandwidth. As for concerns that the MBS is too large, it is important to recognize that the proposed MBS has just one 6 MHz channel for each of the seven potential ITFS channel groups in each market. It would be difficult to effectuate the Coalition Proposal with less than seven channels since the transition plan relies on the guarantee that each ITFS licensee’s video programming can be shifted to a MBS channel licensed to that entity and operating with the same technical parameters as its existing ITFS channels.

Furthermore, concerns that the MBS is too small are mooted by the success of digital compression technologies, which can offer multiple program “tracks” on each of the 6 MHz MBS channels. WCA, NIA and CTN, therefore, are confident that, even in the most active educational video markets, there is sufficient capacity available in the MBS for video transmission requirements. In addition, if an individual ITFS licensee believes that it needs more than one MBS channel to transmit its educational video services, the Coalition Proposal

³⁹ Initial Coalition Proposal at 17-18.

encourages secondary market channel exchanges so that any licensee desiring a second MBS channel could swap UBS or LBS capacity (and associated transition band spectrum) for a MBS channel. Commercial operators in markets that have multiple ITFS and MDS channel groups under lease or ownership can assist in this rationalization process, particularly during the Transition Planning Period proposed in Appendix B to the Coalition Proposal.

Finally, as discussed in the Coalition Proposal, placement of the MBS at 2572-2614 MHz has the advantage of minimizing the costs of migrating ITFS video and data operations to the MBS.⁴⁰ Because each MBS channel uses the exact frequencies assigned to an existing MDS or ITFS channel, the costs of retuning existing transmitters or providing replacement transmitters will be extremely low. Indeed, under the default channel assignment plan, four of the seven MBS licensees will be operating after the transition on a frequency within its pre-transition channel group, and two will be operating on the exact same channel, greatly simplifying the transition process. Any alternative bandplan that does not result in high-power, high-site channels being “on channel” relative to the current bandplan will substantially increase both the cost and difficulty of transitioning from the current to the new bandplan.

Retuning existing transmitters to a standard frequency is a simple matter of switching certain parts that are readily available. However, if the Commission were to adopt a bandplan that results in the MBS not being “on channel,” the process of transitioning becomes far more complex. Transmitters and combiners will have to be removed from service (which will require a large inventory of spares in order to continue providing current services), shipped to the

⁴⁰ See Initial Coalition Proposal at 18.

manufacturer, rebuilt, recertified and reinstalled. Non-standard crystals for transmitters that are crystal controlled would need to be manufactured.

In addition, an MBS that is not “on channel” substantially increases the potential for cochannel interference to adjacent markets. The problem arises when one market transitions before a neighboring market. The co-channel interference standard contained in Parts 21 and 74 is predicated on the assumption that channel frequencies will align very closely. If non-standard channel frequencies are introduced in one market, while standard channel frequencies are maintained in a neighboring market, co-channel interference becomes a possibility even if the minimum desired signal to undesired signal ratio required by the Rules is met. This is reflective of the fact that an analog television channel does not have a constant power spectral density across the channel bandwidth. The power spectral density decreases rapidly away from the video carrier. Therefore, if the video carrier of an undesired channel is moved such that it now falls in the sideband information of the desired signal, the impact of the undesired signal dramatically increases. Thus, were the Commission to establish the MBS such that its channels are not “on channel” relative to the current MDS/ITFS bandplan, new, more stringent co-channel interference requirements would be required to avoid interference where one market transitions and a neighboring market does not. Such a more stringent standard could have a significant adverse impact on the ability of many markets to transition to the new bandplan, as it would dramatically increase the difficulty of designing MBS facilities that meet the interference-protection requirements set out in the Coalition Proposal.

D. Retention Of The I Channels Assures That The UBS Can Be Used With Minimal Interference From Radar Systems Operating Above 2700 MHz And Protects Earth Exploration, Radio Astronomy and Space Research From MDS/ITFS Interference.

Under the Coalition Proposal, the current I channels will remain at 2686-2690 MHz and continue to provide a 125 kHz channel for each current channel, although the channel assignments will be deinterleaved and I channel operations will be secondary to the LBS, MBS and UBS.⁴¹ The retention of these channels at their current location serves important roles both in mitigating interference to the upper portion of the 2.5 GHz band from radar systems operating above 2705 MHz and in protecting Earth Exploration Satellite (passive), Radio Astronomy, and Space Research allocations in the 2690-2700 MHz band from interference from MDS/ITFS.

Air Traffic Control (“ATC”)⁴² and next generation weather radar stations (“NexRad”)⁴³ operate on carrier frequencies as low as 2705 MHz. Thus, the WCA Technical Task Group devoted significant time to assure that facilities deployed in the 2500-2690 MHz band, and

⁴¹ See Initial Coalition Proposal at 12-13, 31.

⁴² ATC is comprised of two types of facilities. Airport Surveillance Radar (“ASR”) stations are located on airports and used by air traffic controllers to cover distances ranging from 20 to 50 miles. Air Route Surveillance Radar (“ARSR”) stations are located between airports and used by traffic control centers to monitor distances ranging from 300 to 500 miles. The total combined ATC system has approximately 500 locations, split approximately evenly between civilian and military installations. These radar stations scan azimuthally at a constant elevation just above the horizontal. ATC operates in the 2700 to 2900 MHz band, with the lowest carrier now at 2705 MHz. Some stations use frequency diversity. The typical power into an antenna is 1.3 million watts. ATC radar stations operate with a pulse width of 1.03 microseconds, a maximum pulse repetition rate 1172, and maximum duty cycle of 0.14%, yielding an average antenna input power of 63 dBm. An EIRP of about 125-dBm peak (about 96 dBm average) is generated with a typical antenna gain of 33.5 dBi. The rotation of the antenna is 12.5 revolutions per minute resulting in a receiving antenna being exposed to the radar station’s 3-dB beamwidth for a period of about 17 milliseconds about every 5 seconds.

⁴³ There are approximately 200 NexRad locations, with approximately 160 located in the continental United States. In contrast to ATC, NexRad stations scan azimuthally and vertically. NextRad also operates in the 2700 to 2900 MHz band, with the lowest carrier now at 2705 MHz. The typical power into the antenna is five hundred thousand watts. NexRad radar stations operate with a pulse width of 1.6 microseconds, a maximum pulse repetition rate of 1304, and maximum duty cycle of 0.21%, yielding an antenna input power of 60 dBm. An EIRP of about 133-dBm peak (about 106 dBm average) is generated with a typical antenna gain of 45 dBi. The rotation of the NexRad antenna is 3 revolutions per minute resulting in a receiving antenna being exposed to the radar station’s 3-dB beamwidth for a period of about 51 milliseconds about every 20 seconds.

particularly those deployed in the UBS, not suffer harmful interference from radar in areas where subscriber demand for service is likely to be quite high.

By regulation, the sideband emissions of ATC and NextRad radar systems must be maintained at least 40 dB below the power of the carrier within approximately ± 7.5 MHz of the carrier frequency falling at a rate of 40 dB/decade to 80 dB below the peak power of the carrier at approximately ± 75 MHz of the carrier frequency.⁴⁴ WCA's Technical Task Group has learned from discussions with National Weather Service and Federal Aviation Administration personnel that many radar systems utilize a more restrictive mask under which 80 dB below the peak power of the carrier is achieved at approximately ± 29 MHz from the carrier frequency.

Applying the required mask, the EIRP of a radar station operating at 2705 MHz would be required to attenuate its OOB by at least 40 dB at about 2697.5 MHz (-7.5 MHz), increasing to 52 dB to the upper edge of the I-band channels at 2690 MHz (-15 MHz), and to 56 dB to the lower edge of the channels at 2686 MHz (-19 MHz). However, the OOB of an ATC or NextRad station operating at 2705 MHz with the more restrictive mask filter would be attenuated closer to 60 dB at the upper edge of the I-band channels at 2690 MHz (-15 MHz) and 68 dB at the lower edge of the I-band channels at 2686 MHz (-19 MHz). Under these circumstances, retention of the I channels provides the UBS an additional 8 dB of interference immunity from these high powered radar stations compared to placing primary channels up to 2690 MHz.

Under the Coalition Proposal, the I channels also serve a role in protecting the Earth Exploration Satellite (passive), Radio Astronomy, and Space Research allocations in the 2690-

⁴⁴ See "Manual of Regulations and Procedures for Federal Radio Frequency Management," U.S. Department of Commerce, National Telecommunications and Information Administration, at § 5.3 (May 1992 edition with revisions September 1993 and May 1994).

2700 MHz band from potential interference. The rules adopted in MM Docket No. 97-217 without objection from the earth exploration, radio astronomy or space research communities, allow the 125 kHz I channels to be used in a manner almost identical to the other channels in the band, without any limitations. To date, there is no indication that this has resulted in any interference to the services at 2690-2700 MHz. Under the Coalition Proposal, the I channels will be subject to more stringent limitations – most significantly, a tighter OOB limitation of $80+10 \log(P)$ dB.⁴⁵ Thus, while WCA, NIA and CTN do not believe, as asked by the *NPRM*, that “any special rules are needed to protect the Earth Exploration Satellite (passive), Radio Astronomy, and Space Research allocations in the 2690-2700 MHz band,”⁴⁶ retention of the I channels at 2186-2190 MHz and subjecting them to the more restrictive spectral mask certainly helps by minimizing OOB above 2690 MHz.

E. The Deinterleaving Of Channel Assignments Will Promote Deployment Of New Services And Eliminate The Current Veto Over New Services Held By Adjacent Channel Licensees.

The proposed deinterleaving of channel assignments will maximize the amount of contiguous spectrum each licensee can deploy and minimize the potential for any one licensee to frustrate the deployment of services by a neighbor. As noted in the Coalition Proposal and in the *NPRM*, the rationale for the interleaved plan has been obsolete for two decades, yet that interleaving (coupled with the Commission’s adjacent channel interference protection rules) severely limits the ability of each interleaved licensee to implement advanced services using its own channels, and needlessly limits the amount of contiguous spectrum available to each

⁴⁵ See Initial Coalition Proposal at 30. See also *NPRM*, 18 FCC Rcd at 6780-81.

⁴⁶ *NPRM*, 18 FCC Rcd at 6781.

licensee to 6 MHz blocks.⁴⁷ In fact, the existing channel plan effectively subjects any planned two-way, cellularized service offering to a veto by an adjacent channel licensee.⁴⁸ There is no sound policy or technical reason for preserving the current interleaving and maintaining the potential for uncooperative licensees to frustrate innovative service offerings. And, as discussed in more detail *infra* at Section II.F.iii), even with the adoption of rules designed to promote cellular operations, deinterleaving will serve the public interest by maximizing the amount of contiguous spectrum assigned to each licensee and thereby maximizing spectral efficiency.

F. The Alternative Bandplans Suggested In The NPRM Provide Less Flexibility And Spectral Efficiency Than The WCA, NIA and CTN Bandplan.

The *NPRM* solicits comments on three alternative bandplans, each of which was considered (along with a variety of others), but rejected by WCA, NIA and CTN prior to the submission of the Coalition Proposal. For the reasons set forth below, these alternatives provide less flexibility and are less spectrally efficient than the bandplan advanced in the Coalition Proposal.

i) A Bandplan With Two Segments For High-Power Operations Is Unnecessary, Less Spectrally Efficient, And More Expensive To Implement.

The first of the alternative bandplans suggested by the *NPRM* calls for alternating bands for low power services and high power services, respectively, with guard bands in between. The *NPRM* indicates that the low power segments each would be 45 MHz wide, but does not specify the size of the other segments.⁴⁹ This approach is illustrated as follows:

Low Power Operations	Guard Band	High Power Operations	Guard Band	Low Power Operations	Guard Band	High Power Operations
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⁴⁷ See Initial Coalition Proposal at 9; *NPRM*, 18 FCC Rcd at 6744-45.

⁴⁸ See Initial Coalition Proposal at 9.

⁴⁹ See *NPRM*, 18 FCC Rcd at 6746.

This proposal is drawn from the discussion contained in the staff's 2001 *Final Report: Spectrum Study of the 2500-2690 MHz Band* ("*Spectrum Study Final Report*"), which explored possible 2.5 GHz bandplans in a context far different from that before the Commission today. Specifically, in 2001 the Commission was contemplating stripping spectrum from ITFS and auctioning it for commercial purposes, and the *Spectrum Study Final Report* examined this particular bandplan as a potential mechanism for permitting both the auction winners (who would receive the segments identified for low power operations) and the remaining MDS/ITFS incumbents (who would receive the segments identified for high power operations) to provide FDD services.⁵⁰ In other words, it was an attempt to allow the current MDS/ITFS licensees and an entirely new group of licensees to both provide FDD services, and thus necessitated that each group have access to two segments of spectrum with sufficient separation between them to support FDD operations.

The Commission ultimately decided not to reallocate any ITFS spectrum for commercial auction and the proposal was shelved.⁵¹ In this proceeding, the objective is quite different – it is to develop a bandplan that will allow the current MDS and ITFS licensees to provide FDD services (as well as TDD services), without any need to accommodate newcomers. Thus, the motivation behind the 2001 bandplan – providing two entirely separate groups of licensees the ability to deploy FDD – is not applicable. Under WCA, NIA and CTN's default channel

⁵⁰ See *Final Report, Spectrum Study of the 2500-2690 MHz Band: The Potential For Accommodating Third Generation Mobile Systems*, at 41 (rel. Mar. 30, 2001).

⁵¹ *Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, Including Third Generation Wireless Systems*, 16 FCC Rcd 17222, 17233-35 (2001).

assignment plan, every licensee that will be securing spectrum in the MBS will also have access to spectrum in the LBS/UBS.⁵² Thus, there is no compelling reason to adopt a bandplan under which a second segment is specifically paired with the spectrum that accommodates high-power, high-site FDD applications.⁵³

Not only does a bandplan with two high-power, high-site segments provide no apparent benefits, it poses a series of potential problems. Most significantly, it would make only 90 MHz available for cellular operations, compared to the 132 MHz in the LBS and UBS under the Coalition Proposal.⁵⁴ Since WCA, NIA and CTN's analysis (coupled with the record developed in response to the *WTB Public Notice*) suggests that 132 MHz can be utilized for cellular service (as only 54 MHz is required to meet high-power, high-site needs and associated guardband requirements), a bandplan that only provides 90 MHz of spectrum for cellular services does not appear to match marketplace requirements.

In addition, eliminating the I Channels exposes the segment closest to the upper boundary of the band to interference from radar systems. As is discussed *supra* at Section II.D, a significant benefit of the Coalition Proposal is that it retains the I Channels as separation between

⁵² As discussed in the Coalition Proposal, there will be ample opportunity for licensees to engage in channel swaps or other secondary market transactions. Thus, those who desire more MBS channels will be able to obtain them in exchange for LBS/UBS channels or other consideration, while those who desire more LBS/UBS channels will be able to obtain them in exchange for MBS channels or other consideration. *See* Initial Coalition Proposal at 12.

⁵³ The *NPRM* suggests that this approach would have the benefit of permitting cellular TDD technology to be deployed on any spectrum block. *See NPRM*, 18 FCC Rcd at 6746. However, that is no more the case with this option than it is with the Coalition Proposal. If the Commission allows TDD to be used indiscriminately in the high-power, high-site band, the current problems identified in the Coalition Proposal of interference to cellular base stations and to ITFS receive sites would continue unabated. *See, e.g.* Initial Coalition Proposal at 8-9, 13-15. Thus, as a general proposition, cellular TDD must be deployed in a band segment separate and apart from that used for high-power, high-site downstream transmissions. Of course, the Coalition Plan does provide a mechanism for the MBS to be used for cellular TDD services under appropriate circumstances, and the same sort of approach could be applied were the Commission to adopt a bandplan with two high-power, high-site segments. Clearly, however, that bandplan is no better than the Coalition Proposal with respect to allowing deployment of TDD services.

⁵⁴ *See NPRM*, 18 FCC Rcd at 6746.

those radar systems and spectrum that would be used for TDD upstream communications. If the Commission eliminates the I channels, the MDS/ITFS band segment closest to 2700 MHz is likely to suffer significant interference from radar. And, the Earth Exploration, Radio Astronomy and Space Research allocations in the 2690-2700 MHz band would lose the protection they receive under the Coalition Proposal, which places channels with very tight OOB requirements adjacent to them.

Of course, the I Channels could be reinstated under a modified version of this bandplan. However, the resulting bandplan would require that four separate segments be designated largely for use as guardbands (the three guardbands plus the I Channel segment), compared with only three under the Coalition Proposal (the J, K and I Channel segments). While guardbands are inevitable given the varied contemplated uses of the band, this alternative adds a guardband without any concomitant benefit to licensees.

Another significant drawback to this alternative is that it would substantially increase the cost of transitioning to the new bandplan and operating in the MBS thereafter. Placing all of the high-power, high-site MBS channels in a contiguous block allows the improved downconverters that will have to be installed at ITFS receive sites following transition to utilize relatively inexpensive filters to block out signals from two-way cellular segments. By contrast, to provide ITFS receive sites with interference-free access to all of the MBS channels if the MBS channels are not contiguous will require the improved downconverters to include additional filtering, which will increase costs. Moreover, although the Commission has not specified the exact location of the high-power, high-site channels under the bandplan advanced in Paragraph 52 of the *NPRM*, if those channels are not “on channel” relative to existing MDS/ITFS channels, the

Commission will substantially increase the costs associated with modifying transmitters to operate under the new bandplan, forcing the expenditure of scarce resources on equipment that will not be used to provide broadband services to the public.⁵⁵

ii) A Bandplan With A Single Contiguous Cellular Segment Will Be Spectrally Inefficient If FDD Technologies Emerge.

Another alternative suggested by the Commission would be to separate the band into just one block for low power operations and one for high power operations, with a single guard band in between. Such an approach is illustrated as follows:

Low Power Operations	Guard Band	High Power Operations
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As reflected in the Coalition Proposal, were WCA, NIA and CTN proposing that the 2.5 GHz band be used exclusively for TDD technologies, a bandplan placing the high power operations at one end of the band likely would have been the bandplan proposed.⁵⁶ However, as the Commission is well-aware, FDD technology requires a separation between the highest frequency used in one direction and the lowest frequency used in the other.⁵⁷ Thus, placing the high-power, high-site segment in the middle of the band serves as the required FDD duplex separation, and thus avoids the need for FDD system operators to set aside additional spectrum for the required FDD separation. If the high-power, high-site services were relegated to one end of the 2.5 GHz band, an entity looking to deploy an FDD technology would be required to set aside spectrum in the cellular band for the duplex separation – an approach that is far less spectrally efficient.

⁵⁵ See *supra* at Section II.C.

⁵⁶ See Initial Coalition Proposal at 15-16.

⁵⁷ See *supra* note 26.

In addition, for the reasons discussed in the preceding section regarding the other alternative bandplan, this proposal lacks the I channels that are necessary to serve a guardband function and, depending on the specific frequencies assigned for high-power, high-site operations, may unduly increase the cost of the transition by not keeping the high-power, high-site frequencies “on channel” relative to the current bandplan.

iii) A Mandatory Across-The-Board Power Reduction Would Be Fraught With Problems.

Finally, the *NPRM* solicits comment on an alternative to the Coalition Proposal under which the Commission would simply require all licensees to reduce their signal strengths sufficient to accommodate low-power cellularized operations on all channels in the 2500-2690 MHz band, without any segmentation of the band.⁵⁸ Such an approach would not advance the public interest.

The fundamental flaw in the *NPRM*'s proposal is that the key underlying assumption – that there is unlikely to be any long term need to accommodate high-power services – is incorrect. As is discussed *supra* in Section II.B, the MBS is needed to meet a present and continuing need for high-power, high-site operations that would be unnecessarily precluded by an across-the-board power reduction. Moreover, the record developed in response to the *WTB Public Notice* indicates that in some markets there is a continuing interest in providing wireless cable MVPD services using high-power, high-site facilities on more than just the MBS

⁵⁸ See *NPRM*, 18 FCC Rcd at 6747.

channels.⁵⁹ As WCA, NIA and CTN noted in reply to the comments filed by smaller MVPDs in response to the *WTB Public Notice*:

Adoption of the WCA-NIA-CTN proposal will have no adverse impact whatsoever on an MVPD until that MVPD's market is transitioned. WCA, NIA, and CTN suspect that many of those complaining about the proposal are located sufficiently distant from other licensees that there is little chance they will be transitioned to the new bandplan unless and until they choose to do so themselves.⁶⁰

Adoption of a mandatory, across-the-board power reduction would make it impossible for most of these services to continue.⁶¹ Indeed, at a time when the Commission is attempting to promote flexibility and abandon the "command and control" regulatory model, the Commission should not mandate the provision of cellular services when it can craft rules that allow high-power, high-site services and cellular services to co-exist in the 2500-2690 MHz band.

In addition, the *NPRM* incorrectly assumes that a flash-cut transition of the entire 2500-2690 MHz band to lower-power "could make de-interleaving a less urgent necessity."⁶² To the contrary, even if the Commission relies solely on spectral masks to avoid adjacent channel interference in the LBS and UBS as proposed by WCA, NIA and CTN, de-interleaving the spectrum remains imperative if the Commission truly wants to promote a mixture of TDD and FDD applications in the 2500-2690 MHz band.

⁵⁹ See Comments of Adams Telcom, Inc, RM-10586, at 3-4 (filed Nov. 14, 2002); Comments of Central Texas Communication, RM-10586, at 3-4 (filed Nov. 14, 2002); Comments of Leaco Rural Telephone Coop., RM-10586, at 3-4 (filed Nov. 14, 2002).

⁶⁰ Coalition Reply Comments at 28. Moreover, a flash-cut approach would be fundamentally unfair to the handful of digital systems that offer a combination of MVPD and two-way Internet access services over more than seven channels. For the reasons WCA, NIA and CTN have previously advanced, those system should be exempt from a mandatory transition to the new bandplan. See First Coalition Supplement at 4-5.

⁶¹ See *supra* at Section II.B (establishing that it is not economically practical for those who are today utilizing high-power, high-site facilities to widely distribute programming to convert their systems to cellular network technology).

⁶² *NPRM*, 18 FCC Rcd at 6747.

As is discussed at some length in the Second Supplement to the Coalition Proposal and *infra* at Section IV.B, more stringent restrictions on OOBЕ are necessary in those cases where adjacent licensees are operating non-synchronized systems (*i.e.*, they are not transmitting in the same direction at the same time, as will occur when one licensee is operating a TDD system and the adjacent channel licensee is operating either an FDD system or a separate TDD system), and have not otherwise undertaken voluntary coordination efforts with the affected adjacent channel licensee.⁶³ WCA, NIA and CTN are not proposing that all transmitters be designed to meet the more stringent OOBЕ requirements – to do so would impose extraordinary costs on those adjacent channel licensees that choose to deploy synchronized technologies (such as where adjacent licensees utilize FDD technology and transmit in the same direction on adjacent channels) or otherwise coordinate, and thus receive no benefit from the tighter OOBЕ limit. Rather, WCA, NIA and CTN contemplate that where non-synchronized technologies are deployed and these more stringent mask requirements apply, a licensee will meet them by backing its carrier away from its channel edges. In other words, a licensee will meet the more stringent OOBЕ obligation through self-imposed guardbands.

If the 2.5 GHz band is deinterleaved as proposed by WCA, NIA and CTN, complying with this mandate should not be unduly burdensome – at most a licensee could be required to

⁶³ See Second Coalition Supplement at 2-3. Two TDD systems, in theory, could be synchronized if they are clock-synchronized so that they operate upstream at the same time and downstream at exactly the same time. It is WCA, NIA and CTN's understanding that synchronization of two independent TDD systems is not practical given current technology, and that it is uncertain when, if ever, it will be possible to synchronize two TDD systems. Moreover, even if two adjacent systems could be synchronized from a technical perspective, on a technical basis, it is uncertain whether the different service providers (which may have very different business plans and/or customer needs) will agree upon a common setting of upstream and downstream time slots for their customers. As a result, grouping of TDD systems in a single segment of a band does nothing to reduce the guardband requirements surrounding each TDD system. Thus, the grouping of TDD systems together will not reduce the guardband requirements applicable to those systems.

provide two guardbands – one at each end of its block of contiguous LBS/UBS spectrum. However, if the band is not deinterleaved, a licensee could be required to provide as many as eight such guardbands – one at each end of each of its four interleaved channels. Quite clearly, a four-fold increase in the quantity of spectrum needed for guardbands would not be spectrally-efficient.

Finally, in considering the merits of an across-the-board power reduction, it is important to remember, as discussed *supra* in Section II.A, that under the Coalition Proposal, spectrum in the MBS can be used for cellularized services. Thus, even if one assumes for the sake of argument that at some time in the future there will be no demand for spectrum designed to accommodate high-power, high-site uses, licensees can be expected to act in their own self-interest and provide the consents necessary for MBS spectrum to be operated under the LBS/UBS rules.⁶⁴ A Commission edict is not necessary – flexible rules and marketplace forces will yield the same result, if indeed it proves to be the appropriate result.

G. The Commission Should Permit Partitioning And Disaggregation Under Whatever Bandplan Is Adopted.

WCA, NIA and CTN have urged the Commission to permit licensees to partition their Geographic Service Areas (“GSAs”) and disaggregate their spectrum, and the *NPRM* now seeks comment on that proposal.⁶⁵ Partitioning and disaggregation have been permitted in other services where the Commission has implemented geographic licensing,⁶⁶ and there is no reason

⁶⁴ See Coalition Reply Comments at 7-8.

⁶⁵ See Initial Coalition Proposal at 13; *NPRM*, 18 FCC Rcd at 6791-92.

⁶⁶ Partitioning and disaggregation are permitted in the 218-219 MHz Service (47 C.F.R. § 95.823), 220 MHz Service (47 C.F.R. § 90.1019), 800 MHz (47 C.F.R. § 90.911) and 900 MHz (47 C.F.R. § 90.813) Specialized Mobile Service, 24 GHz Service (47 C.F.R. § 101.535), 39 GHz Service (47 C.F.R. § 101.56), Guard Band Manager’s Spectrum in the 746-764 MHz and 776-794 MHz bands (47 C.F.R. § 27.605), Local Multipoint Distribution Service

why they should not be available to MDS and ITFS licensees. Indeed, such tools, coupled with an active secondary market, are essential for system operators to consolidate sufficient spectrum to cover the geographic service areas they desire to serve.

In addition, partitioning and disaggregation will assist in the promotion of broadband services in rural areas. As the Commission noted in its pending *Notice of Inquiry* on promoting deployment of rural wireless service:

A rural telco interested in serving only a rural area may seek to obtain spectrum post-auction through partitioning or disaggregation, rather than bid for a license covering an area that it does not intend to serve. In this manner, our partitioning and disaggregation policies may help service providers...to obtain spectrum tailored to their specialized service area and financial needs.⁶⁷

Thus, WCA, NIA and CTN support the proposal set forth in Paragraph 171 of the *NPRM* to allow MDS/ITFS licensees to freely engage in such practices.

Moreover, WCA, NIA and CTN applaud the Commission for proposing two concepts identified in the *SPTF Report* – allowing disaggregation along the parameters of time slots and/or power levels. As discussed *infra* in Section IV.E, it would be premature and improvident

(47 C.F.R. §101.1111), Location and Monitoring Service (47 C.F.R. § 90.365), Multiple Address Systems (47 C.F.R. §101.1323), Maritime Services (47 C.F.R. § 80.60), Paging and Radiotelephone Service (47 C.F.R. § 22.513), Cellular Radiotelephone Service (47 C.F.R. § 22.948), Broadband Personal Communications Services (47 C.F.R. § 24.714), Narrowband PCS (47 C.F.R. § 24.104), and the Wireless Communications Service (47 C.F.R. § 27.15).

⁶⁷ *Facilitating the Provision of Spectrum-Based Services to Rural Areas and Promoting Opportunities for Rural Areas and Promoting Opportunities for Rural Telephone Companies to Provide Spectrum-Based Services*, 17 FCC Rcd 25554, 25558-59 (2002) (footnotes omitted). It is worth noting that even in the cellular bands, WCA, NIA and CTN would permit continued operation at the relatively high EIRP levels permitted under the current rules. See Initial Coalition Proposal at 25-26. Thus, while it is expected that urban system operators will utilize far lower power levels in connection with the cellularization of their systems, more rural operators will be able to operate at high EIRP levels, subject to compliance with the proposed signal strength limits at their GSA borders. Thus, the Coalition Proposal is fully consistent with the Spectrum Policy Task Force's recommendation that the Commission "enable the lowering of permitted power in urban areas and the increasing of permitted power in rural areas." *SPTF Report* at 24. See also *id.* at 59 ("[R]ules should also afford spectrum users the flexibility to operate at higher power in less congested areas, which are typically rural, so long as such higher power operations do not cause interference and do not receive additional interference protection.").

for the Commission to authorize unlicensed use of opportunistic technologies or underlays without the permission of those MDS and ITFS licensees that might be adversely affected. There is no reason, however, why the Commission should not allow licensees, in their own discretion and under terms of their own choosing, to either lease or sell capacity on their spectrum along the parameters of time slots and/or power levels. Admittedly, WCA, NIA and CTN believe that the technologies capable of exploiting such access are not developed to the point where they can be deployed without risk of interference to the primary license holder (particularly in bands, like 2.5 GHz, where many believe mobile and portable use will predominate). Nonetheless, licensees should have the flexibility, if they so choose, to authorize the deployment of such technologies either through spectrum sales or leases, and to make their own arrangements to assure interference protection. As the Spectrum Policy Task Force properly found, “granting licensees additional flexibility to make their licensed bands available to others would increase access to the spectrum and, correspondingly, minimize the impact of spectrum scarcity.”⁶⁸

III. THE COMMISSION SHOULD ADOPT THE CAREFULLY CRAFTED COALITION PROPOSAL FOR TRANSITIONING TO THE NEW BANDPLAN.

The Coalition Proposal advocated an approach for transitioning to the new bandplan on a market-by-market basis, with each licensee bearing its own costs except for the Proponent’s payment of limited costs on behalf of ITFS licensees.⁶⁹ The goals WCA, NIA and CTN shared in crafting a transitional approach, as explained in the Coalition Proposal, were as follows:

⁶⁸ *SPTF Report* at 15.

⁶⁹ *See* Initial Coalition Proposal at App. B, p. 5.

(1) promoting the expeditious deployment of advanced technology for commercial and educational applications; (2) maintaining and enhancing the educational use of the 2.5 GHz band by ITFS licensees; (3) minimizing up-front expenditures by transitioning to the new bandplan on a market-by-market basis only at such time as a system operator is prepared to deploy a new service or materially modify an existing one; (4) shifting certain costs of a transition from affected ITFS licensees to the proponent of that transition, while requiring partial reimbursement of those costs by others who subsequently benefit; (5) avoiding opportunities for unreasonable licensees to delay the transition unless paid “greenmail”; and (6) allowing continued operation of the wireless cable multichannel video programming distribution (“MVPD”) systems that are providing a competitive alternative to cable and DBS.⁷⁰

That general approach of transitioning to the new bandplan on a market-by-market basis was applauded by all of those commenting in response to the *WTB Public Notice*, save for one small group of MDS licensees that asserted that the transition “would be infinitely simplified if all MDS and ITFS licensees were required to transition to the new plan by specified dates at their own expense,”⁷¹ an approach on which the *NPRM* seeks comment.⁷² Admittedly, such an approach might appear simpler at first glance because a flash-cut approach theoretically could lead to more rapid transitions in some markets as compared to awaiting a Proponent to materialize and drive transition plans. However, there are strong countervailing considerations that ultimately led to the proposals included in the Coalition Proposal.

First, the reality is that many ITFS licensees simply do not have funding available to effectuate a transition (and many ITFS excess capacity leases do not necessarily require the lessee/commercial operator to pay those costs). That problem – one unaddressed by the *NPRM* – was solved in the Coalition Proposal by delaying each ITFS licensee’s migration to the MBS

⁷⁰ *Id.* at App. B, p. 1.

⁷¹ Comments of MMDS Licensee, RM-10586, at 3 (filed Nov. 14, 2002).

⁷² *See NPRM*, 18 FCC Rcd at 6763-65.

until a Proponent is prepared to fund that transition. Absent the voluntary funding of transitions by the Proponent, it is unclear how the Commission would meet the need of the ITFS community for financial assistance in transitioning. Certainly, the *NPRM* advances no suggestion as to how an ITFS licensee's cost of transition would be covered in the absence of a Proponent.

Second, there is a fundamental difference between the approach taken by WCA, NIA and CTN and that suggested in the *NPRM*. At the risk of over-simplifying, the alternatives advanced in the *NPRM* all smack of "command and control" – the Commission is going to force licensees to move to low-power cellular architectures by a date certain without regard to local market needs. By contrast, the Coalition Proposal is market-driven; until someone (one of the many potential Proponents for a given market) determines that marketplace conditions call for a transition, the *status quo* continues – including the continued provision of current high-power, high-site services that licensees believe better serve the local market than cellular services.

For example, under the Coalition Proposal many of the rural video operators who expressed concerns over a mandatory bandplan in response to the *WTB Public Notice* will be able to continue operating under the current bandplan for the foreseeable future. This would occur because, as noted above, a market is not transitioned to the new bandplan until one of the many potential Proponents for a given market either is prepared to utilize the new bandplan in that market or a transition is necessary to allow advanced wireless services in a neighboring market. Thus, systems operating in more remote rural areas need not transition until marketplace conditions are ripe for the system operator to initiate its own transition.

A marketplace approach along the lines of the Coalition Proposal has the added benefit that it focuses on the provision of services to the public, not on effectuating transition for

transition's sake. While a date-certain approach will certainly cause transitions to occur (and in some markets to occur more rapidly than under the Coalition Proposal), transition in and of itself is of no benefit to the public. Rather, it is only when someone determines that the market is ready for a cellular service and is prepared to invest in such a service that the public benefits of the new bandplan start to accrue. As Chairman Powell recently noted, "infrastructure build-outs take time."⁷³ The proposed market-by-market approach allows capital to be directed where it is needed most – the markets where operators are ready to deploy services that will benefit from the new bandplan – without forcing premature expenditures in markets where service will not be immediately deployed.

In crafting the Coalition Proposal, WCA, NIA and CTN recognized that an approach to transitions that resulted in excessive transaction costs (both direct financial expenditures and costs associated with unnecessary delay) could undermine the ultimate success of the MDS/ITFS bands as home to advanced wireless services. Thus, WCA, NIA and CTN carefully crafted their market-by-market approach so that it can be implemented in a manner that keeps transaction costs to a minimum. Thus, it limited the direct costs imposed on a Proponent to those associated with providing ITFS licensees improved downconverters at eligible receive sites and migrating eligible ITFS video programming or data to the MBS.⁷⁴ Although transitions will be relatively straight-forward in many markets, WCA, NIA and CTN recognized that there will be markets where the transition will be slightly more complex due to licensing or use anomalies. WCA, NIA and CTN proposed a series of safe harbors designed to provide licensees and Proponents

⁷³ Remarks of Michael K. Powell, Chairman, Federal Communications Commission, at the Broadband Technology Summit, U.S. Chamber of Commerce, Washington, D.C. (Apr. 30, 2002)[“Powell Summit Remarks”].

⁷⁴ See Initial Coalition Proposal at App. B, pp. 5-11.

with guidance as to what transition plans will pass muster (thereby minimizing transaction costs associated with reaching agreement and avoiding a need for Commission intervention). In short, as discussed in Section III of the Reply Comments filed by WCA, NIA and CTN to the *WTB Public Notice*, the transaction costs associated with their market-by-market approach will be kept within acceptable limits if the Commission adopts their proposal for Proponent-led transitions and safe harbor policies that will largely eliminate the potential for dispute.⁷⁵

Indeed, if the Commission adopts the Coalition Proposal, transitions will be able to occur far more quickly than under the alternatives proposed in the *NRPM*. Under the approach advocated by WCA, NIA and CTN, even if some licensees in a given market are uncooperative, a Proponent will be able to implement a Transition Plan within a reasonable time frame. The Transition Planning Period lasts no more than 90 days from the service of the Transition Notice and the transition can be implemented immediately thereafter.⁷⁶

This rapid transition process stands in contrast to the procedures suggested in Paragraphs 102 through 104 of the *NPRM* under which the Commission would establish voluntary and/or mandatory negotiation periods during which licensees could negotiate for inducements to

⁷⁵ See Coalition Reply Comments at 12-15, 21-22.

⁷⁶ See Initial Coalition Proposal at App. B, p. 18. A critical component of the Coalition Proposal is that it effectively precludes opportunities for licensees to extract “greenmail” from Proponents anxious to deploy facilities under the new bandplan. If the affected licensees agree to the proposed Transition Plan, the Proponent can implement it immediately. Should a licensee object that the Proponent’s Transition Plan is unreasonable and file a counterproposal, the Proponent can invoke alternative dispute resolution procedures to secure a determination as to whether its proposed Transition Plan is reasonable. While the Proponent can then put the transition on hold pending a decision, it also has the option of implementing the objecting licensee’s counterproposal immediately (subject to compensation from the objecting licensee should the proposed Transition Plan ultimately be found to have been reasonable). This approach not only deters licensees from objecting to reasonable Transition Plans, it assures that when objections are filed, transitions can proceed without awaiting the results of alternative dispute resolution procedures.

cooperate, but thereafter would be required to transition at their own cost.⁷⁷ Although the *NPRM* does not suggest any duration for these transition periods, in the prior situations referenced in the *NPRM* the Commission has established voluntary and/or mandatory renegotiation periods that have allowed relocations to drag on for two years or more before which an involuntary relocation occurred.⁷⁸ Thus, while WCA, NIA and CTN have provided for transitions to occur in as little as 90 days even in the face of a non-cooperative licensee, the Commission's alternatives could allow a non-cooperative licensee to drag out the process for years.

WCA, NIA and CTN can identify no good reason why a MDS or ITFS licensee should be permitted to delay the transition in its markets (and other neighboring markets that are linked due to close-spacing) for such a long period of time. Perhaps these drawn-out sunset periods are justified in the other services where they have been applied, which generally involve incumbent licensees being required to relocate to entirely different spectrum in entirely different bands to free the spectrum for a total newcomer. That is not the case here. Clearly, given the objective of expediting the transition of the 2.5 GHz band to a new bandplan that will promote the deployment of broadband services to meet commercial and educational needs, the Coalition Proposal is far superior. The fact that those who are going to do the relocating, and those that are going to be relocated, have agreed to potentially rapid transitions proposed by WCA, NIA and

⁷⁷ See *NPRM*, 18 FCC Rcd at 6764-65.

⁷⁸ *Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service*, 15 FCC Rcd 12315, 12343 (2000); *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 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Service Use*, 15 FCC Rcd 13430, 13467-70 (2000); *Amendment of Part 90 of the Commission's Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band; Implementation of Sections 3(n) and 332 of the Communications Act -- Regulatory Treatment of Mobile Services*, 14 FCC Rcd 17556, 17578-89 (1999); *Amendment to the Commission's Rules Regarding a Plan for Sharing the Costs of Microwave Relocation*, 12 FCC Rcd 2705 (1997).

CTN speaks volumes. NIA and CTN are satisfied with the requirements designed to promote rapid transition in exchange for the absolute assurance that the specified costs of transition will be paid by the Proponent, while WCA (from which most Proponents will be drawn) is satisfied to have no sunset date after which ITFS licensees would have to transition at their own cost and to bear its own costs at all times.

IV. THE TECHNICAL RULES PROPOSED BY WCA, NIA AND CTN SHOULD BE ADOPTED.

A. The Provisions In The Coalition Proposal Designed To Regulate Cochannel Interference Outside the MBS Strike An Appropriate Balance Between Affording Licensees Flexibility And Assuring Reasonable Interference Protection.

WCA, NIA and CTN have proposed a two-prong approach to the regulation of cochannel interference on the non-MBS channels: (1) the imposition of a maximum signal strength at the border of each licensee's GSA; and (2) further restrictions on signal level outside a licensee's GSA when a base station constructed in proximity to the GSA border with its transmission antennas in excess of a "safe harbor" height causes interference to a non-synchronized base station on the other side of the GSA border that has been constructed with its reception antennas below a "safe harbor" height.⁷⁹ Because both of these proposed prongs are essential if licensees are to enjoy the flexibility to use non-synchronized technologies as envisioned by WCA, NIA and CTN, the rationale for each is reviewed below.

⁷⁹ See *NPRM*, 18 FCC Rcd at 6777, 6779; Initial Coalition Proposal at 26-27; First Coalition Supplement at 3-4 (clarifying that signal level is to be measured over a 5.5 MHz bandwidth and providing for appropriate adjustments if other bandwidths are employed); Second Supplement at 3-7 (providing for safe harbors). Note that the Second Coalition Supplement contemplates that even where the victim is not in safe harbor, or where both the interferer and the victim are in safe harbor (which in almost all cases will preclude interference in the first place), the licensees have an obligation to cooperate with each other to resolve the interference. See Second Coalition Supplement at 6-7.

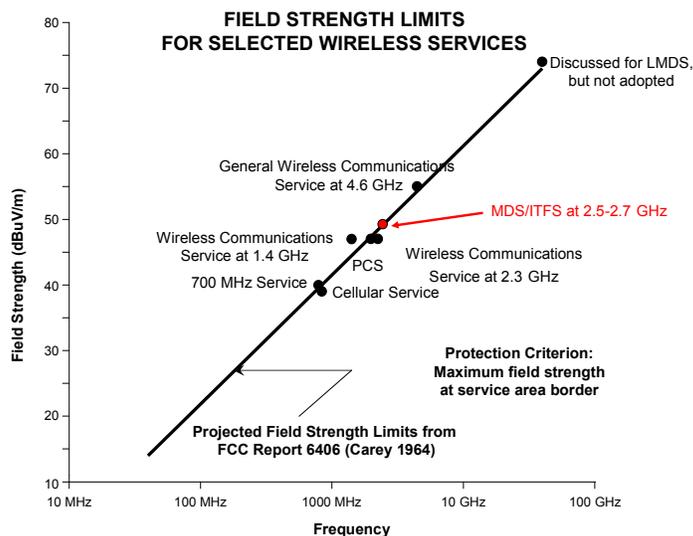
The imposition of a maximum signal strength at a licensee's service area boundary is a tried and true mechanism for controlling cochannel interference.⁸⁰ WCA, NIA and CTN have proposed that the Commission utilize the same 47 dB μ V/m standard employed for broadband PCS,⁸¹ for Part 27 services in the 2305-2320 and 2345-2360 MHz bands, and for Part 27 services in the 1390-1395 and 1432-1435 MHz bands.⁸² This field strength level appears to the WCA Technical Task Group to strike an appropriate balance between limiting potentially disruptive signals into an adjoining service area, and permitting a licensee to substantially serve its GSA, including areas near the border, at least where synchronized technologies are deployed or the systems otherwise coordinated.⁸³ Although at lower frequencies the Commission has utilized lower signal strength limits (such as the 40 dB μ V/m limit referenced in paragraph 131 of the *NPRM*, which applies to services in the 700 MHz, 800 MHz and 900 MHz bands), the following chart illustrates that the use of 47 dB μ V/m for MDS/ITFS at 2500-2690 MHz is consistent with the Commission's other signal strength limitations (and, indeed, even a 50 dB μ V/m signal strength could be justified):

⁸⁰ See Initial Coalition Proposal at 26-28; *NPRM*, 18 FCC Rcd at 6777.

⁸¹ 47 C.F.R. § 24.236.

⁸² 47 C.F.R. § 27.55(a)(1) and (3).

⁸³ In applying this 47 dB μ V/m field strength limit, WCA, NIA and CTN have recommended that compliance with the 47 dB μ V/m field strength limit be measured 1.5 meters above ground. See Initial Coalition Proposal at 26-27. In addition, to avoid confusion and inconsistent application of the field strength limit, the Commission should specify that this 47 dB μ V/m field strength limit is to be measured over a 5.5 MHz bandwidth (*i.e.*, the bandwidth of a LBS/UBS channel) and that operations over different sized channels should be adjusted by applying a factor of 10 log[(actual bandwidth MHz)/(5.5 MHz)]. See First Coalition Supplement at 4. The need for this clarification is illustrated by a simple example – the difference between a field strength measurement made at 5.5 MHz and one made at 1 MHz is -7.4 dB.



As WCA, NIA and CTN have previously explained, a field strength limit alone does not provide adequate interference protection when non-synchronized systems are operating cochannel on opposite sides of the border.⁸⁴ The WCA Technical Task Group determined after extensive examination that the 47 dB μ V/m PCS signal strength limit is wholly inadequate where operations on opposite sides of the service area border are non-synchronized. To address this situation, the Coalition Proposal advanced further restrictions, based on the safe harbor concept. This approach was developed to provide licensees with a reasonable opportunity to deploy their technology of choice without undue risk of interference from a neighbor that chooses to deploy a non-synchronized technology. In other words, while the 47 dB μ V/m standard alone is appropriate when synchronized systems are involved (as, for example, is the case with PCS), more is needed here to accommodate the technology flexibility envisioned by WCA, NIA and CTN and the Commission.

⁸⁴ See Initial Coalition Proposal at 27-28; Second Coalition Supplement at 3-6.

The problem, in a nutshell, is that where line of sight exists, transmissions from a base station in a GSA where a given channel is used for downstream transmissions can cause interference at the receivers of a base station in a nearby GSA if the same channel is used for upstream transmissions. This occurs because the receivers at the base station must be sensitive enough to receive low power signals from subscriber units, and is true even if the 47 dB μ V/m benchmark is met by the downstream transmissions at the GSA border. Indeed, as discovered by the WCA Technical Task Group, base station receivers will be so sensitive that this potential for interference exists almost without regard to the signal level at the border. For example, absent terrain or other blockage, transmissions from atop a 125-foot tower would likely cause cochannel interference to the reception antennas at a 125-foot base station in a neighboring GSA even if each tower were 15 miles from the common GSA boundary, virtually without regard to the power level of the downstream transmissions.⁸⁵ Thus, line of sight between non-synchronized base stations will always be problematic.

It would be unduly harsh to address this risk of interference by barring licensees from transmitting any signal whatsoever into the neighboring GSA. As a practical matter, such a requirement would preclude licensees from providing a viable service towards the outer portions of their own GSAs, since it is for all intents and purposes impossible to serve up to, but not beyond, a geographic boundary. Similarly, the Commission should not adopt the simple expedient of precluding licensees from constructing base stations that would have line-of-sight to the reception antennas of a previously constructed base station in a neighboring GSA. To do so

⁸⁵ To illustrate, two base stations that are boresighted and utilize 17 dBi gain antennas would have to be separated by 68 miles to avoid interference even if the transmitting station was operating with a transmitter output power of only 1 milliwatt (assuming the receiving station bandwidth measured over 5.5MHz).

would unfairly preclude adjacent market cochannel licensees from providing ubiquitous coverage within their own GSAs, and give those licensees that deploy their systems first an incentive to construct base station antennas high above ground in order to take advantage of the first mover interference protection. Banning all tall base stations near the border would be overkill, since base stations are problematic only if the antennas are oriented towards the GSA boundary, or other voluntary coordination steps, such as coordinated frequency planning, are not employed. Thus, WCA, NIA and CTN rejected an approach similar to that employed for PCS, which allows base stations on tall structures without restriction, but imposes a power penalty on those exceeding a certain height. The PCS approach, it should be noted, was adopted to address a very different sort of problem than is facing MDS/ITFS, and thus should not be considered as precedent here.⁸⁶

Thus, WCA, NIA and CTN settled upon a novel approach, but one that is directly targeted at the problem. It allows licensees to construct base stations without any height

⁸⁶ As noted in Paragraph 138 of the *NPRM*, the safe harbor approach departs from the broadband PCS precedent. However, it is essential to recognize that while PCS licensees have the flexibility to deploy TDD or FDD systems under the Commission's Rules, all PCS licensees to date have chosen to deploy FDD systems using 1850-1910 MHz for upstream communications and 1930-1990 MHz for downstream communications. In reviewing the history of Section 24.232(a) of the Rules – the rule that imposes height and power limitations on PCS base stations, one finds no discussion whatsoever of the potential for interference between cochannel, non-synchronized technologies. To the contrary, one finds that the rules reducing PCS power as transmission height increases was targeted at protecting incumbent point-to-point microwave facilities. See *Amendment of the Commission's Rules to Establish New Personal Communications Services*, 7 FCC Rcd 5676, 5720 (1992) (“[I]n principle, the control of interference to fixed stations does not depend on the imposition of specific limits on PCS power and antenna height. However, with very high PCS powers and antenna heights, there may be an increased risk of interference because of the statistical variations in propagation and other factors used in the calculations. Therefore, some upper limit on PCS power and antenna height may be prudent, while taking into account our desire to provide maximum flexibility in the design of PCS systems.”); *Amendment of the Commission's Rules to Establish New Personal Communications Services*, 8 FCC Rcd 7700, 7764-65 (1993) (“We will also permit higher antenna heights up to 2000 meters with a corresponding reduction in power....We believe that the greater flexibility afforded by this approach is important to the development of a robust PCS service, especially in areas where the population may be scattered. In order to offset any increased interference potential, we will require PCS licensees to specifically evaluate interference levels involving line-of-sight paths between microwave sites and proposed base stations lying within the main beam of a microwave receiving antenna.”).

restriction. However, it only extends additional interference protection (beyond the 47 dB μ V/m received signal level limit) to those base station receive antennas that are not unduly tall relative to the distance of the base station to the border, and it requires the licensee of those base station transmission antennas that are unduly tall relative to their distance to the border to make modifications to protect only those on the opposite side of the border that are not unduly tall. In other words, it provides “safe harbors” that promote, but do not require, the use of low-site base stations close to GSA borders to facilitate interference-free service.

The net result of this approach is to provide a mechanism by which licensees can shield themselves from regulatory uncertainty, while encouraging licensees to engage in voluntary coordination. WCA, NIA and CTN believe the best approach to the problem of cochannel interference is for the affected licensees to enter into coordination agreements that are more narrowly tailored to their markets and business plans. Voluntary coordination should permit co-channel licensees to provide service even close to the border of service areas, even utilizing facilities outside of safe harbors. Since both co-channel licensees will desire to provide service as close as possible to the border, and both will desire the flexibility to utilize facilities in excess of safe harbor heights, the safe harbor regime will create powerful incentives for voluntary coordination, without the need for regulatory fiat. Where such voluntary agreements are not forthcoming, however, a licensee that constructs its base stations near boundaries at or below its safe harbor height will have certainty that it will not have to make future modifications to protect a neighboring cochannel base station, no matter how that neighboring cochannel base station is designed. And, a licensee that has constructed its base station at or below its safe harbor height has certainty that it will be protected should a neighboring cochannel base station be constructed

above its safe harbor height and cause actual interference. While the safe harbor regime creates some additional level of complexity in the rules, this complexity is necessary to achieve a balance of positive incentives for coordination with regulatory certainty, where, for whatever reason, parties cannot reach agreement. Moreover, this minor added complexity will not create significant burdens in system design – a point evidenced by the consensus of operators, who will bear any costs of operating within the regime, in favor of this proposal. WCA, NIA and CTN believe that this balanced approach will best maximize service to the public, and should be adopted.

Pursuant to the Coalition Proposal, a station is deemed within its safe harbor if the height in meters of the antenna's centerline above the average elevation along the radial directly towards the base station receiving the interference is equal to or less than $D^2/17$ (where D is the distance in kilometers between the base station causing the interference and the point on that radial that intersects the boundary of the GSA of the station receiving the interference).⁸⁷ This formula determines, based on average elevation (which is more easily applied than requiring specific terrain studies and is less open to dispute), whether the station is of sufficient height that it will have line-of-sight to the border. This is an appropriate approach – a station that is tall enough that it just has line of sight to the border should be protected and should not have special obligations, since base stations require line of sight to the border if the system is to provide ubiquitous coverage of the GSA.

⁸⁷ See Second Coalition Supplement at 5.

The *NPRM* also solicits comment on the possible imposition of antenna heights upon consumer units.⁸⁸ WCA, NIA and CTN agree with the *NPRM* that portable and mobile units will operate at low power levels and generally will be utilized at relatively low heights above ground level, thus making it unlikely that they will be a source of interference.⁸⁹ WCA, NIA and CTN recognize that a portable or mobile unit can be operated at a high elevation (such as atop a skyscraper), but believes that the instances of such use will be relatively infrequent and should not pose a substantial problem. Moreover, as a practical matter one cannot have portable and mobile service without running this risk. Indeed, as a practical matter it will be virtually impossible for operators to control the height at which fixed consumer equipment is installed given the movement towards consumer self-installation. Moreover, consumers are likely to be mounting their fixed equipment at the lowest possible heights and therefore, as with mobile and portable equipment, the risk of actual interference is quite low. Thus, particularly given the inability of system operators to control where consumers mount equipment, on balance the better approach is not to restrict the height of consumer equipment.⁹⁰

B. The Emission Masks Advanced By WCA, NIA and CTN Reasonably Limit Adjacent Channel Interference And Maximize Spectral Efficiency While Remaining Technology Neutral.

As the Spectrum Policy Task Force recognized, there is an inherent tension between the dual objectives of affording licensees flexibility and of grouping like systems together – if every licensee is free to choose the services it will offer and the technology it will employ, the

⁸⁸ See *NPRM*, 18 FCC Rcd at 6778.

⁸⁹ See *NPRM*, 18 FCC Rcd at 6778.

⁹⁰ However, the Commission should clarify that where a system operator utilizes LBS/UBS spectrum for point-to-point applications, such as for backhaul between cell sites, each transmission facility should be treated like a base stations for regulatory purposes and subject to the various notice, OOBE, safe harbor and other rules applicable to base stations.

Commission cannot possibly assure that technically-disparate systems will be separated.⁹¹ The Coalition Proposal attempts to address this problem by grouping cellular services in bands separate from high-power, high-site services, while relying on technical restrictions in the cellular bands to afford each licensee the flexibility to deploy FDD or TDD technologies and to switch between them from time to time in response to changes in marketplace demands and technologies innovation.

Permitting flexibility, which the industry universally supports, and which the Commission has consistently endorsed, comes with a price, albeit one which the industry is happy to pay. One of the more difficult tasks faced by WCA, NIA and CTN in developing technical rules that support flexibility was the establishment of OOB limits that would allow adjacent channel operation without undue interference regardless of the technology deployed on adjacent channels, while at the same time keeping operator costs to a minimum. OOB base station limits along the lines of those imposed on broadband PCS licensees will achieve that objective when adjacent licensees are operating synchronized systems (*i.e.* both utilize adjacent spectrum to transmit in the same direction at the same time).⁹² However, substantially more stringent OOB limits are required to provide licensees with reasonable levels of interference protection where licensees exercise their flexibility and choose to deploy non-synchronized systems. For example, two operators sharing a channel edge who are operating FDD systems and transmitting in the same direction in the affected frequencies, as is universally the case in PCS, will not interfere with each other, and no special protections are required. In contrast, if a

⁹¹ See *SPTF Report* at 22.

⁹² See Second Coalition Supplement at 1-2 n.3.

TDD operator (who transmits in both directions on the same frequency) shares a channel edge with a FDD operator, there is a real potential for interference. Similarly, if two TDD operators are operating systems that are not synchronizing the time slots in which they are transmitting upstream or downstream, interference is very likely.

Of necessity in a flexible regime, the determination of what technologies are deployed on which frequency bands in which markets will be made by a number of independent operators and are subject to change over time. Since the need for more stringent adjacent channel interference protection may or may not exist in a particular situation, depending on the technologies sharing the adjacent channel border, a “one size fits all” OOB emission limit will by definition be too restrictive in some situations, while a less restrictive limit may not provide adequate protection in others. If faced with a more stringent OOB limit that was universally applicable, licensees would be forced to use transmission equipment with additional filtering and/or back off the signal from the channel edge to allow a guardband to meet the tighter OOB limit at the channel edge. This fact was recognized in the *SPTF Report*, which similarly concluded that “[s]ystem or device spectrum incompatibility can require additional constraints in the form of guard bands, consuming valuable spectrum, or expensive filtering systems to avoid adjacent band interference.”⁹³

Thus, the problem WCA, NIA and CTN faced, and the Commission now faces, is that a comparatively loose OOB limit provides perfectly acceptable adjacent channel interference protection when adjacent licensees are operating synchronized systems, but when adjacent systems are not synchronized, a more stringent OOB limit (which requires more expensive

⁹³ *SPTF Report* at 22.

equipment and/or the devotion of spectrum to guardband) is necessary to provide an appropriate level of interference protection. As in other areas, fashioning rules that support flexibility, but address the potential for different circumstances on the ground, creates some incremental complexity. Again, however, this complexity is well worth the price. The net result is that deployment and technology decisions can be driven by market forces and technological innovation, not regulatory dictates, while at the same time the Commission can protect deployments from interference through a stable, predictable set of rules.

To achieve this result with respect to base stations, the Coalition Proposal calls for all LBS/UBS emissions to be attenuated below the transmitter power (P_{watts}) by at least $43 + 10 \log(P_{\text{watts}})$ dB measured at the licensed channel edge unless otherwise agreed by the adjacent channel licensee.⁹⁴ This is the same OOB limit imposed on PCS, the 700 MHz band and other

⁹⁴ As suggested in the Coalition Proposal, the Commission should retain the approach of Section 21.908(a) and provide for all of the various out-of-band emission requirements to be measured at the outermost edges of the combined channels where two or more channels licensed to one or more licensees are used as part of the same system. *See* Initial Coalition Proposal at 29 n.79. *See also Omnipoint Request for Broadband Declaratory Ruling Or Waiver Concerning PCS Emission Limits Rule Section 24.238*, 15 FCC Rcd 13422 (2000)(allowing PCS licensees to meet spectral mask at outermost edges of co-owned adjacent channels). Thus, while for the sake of simplicity WCA, NIA and CTN will refer in this filing to the measurement of OOB relative to “channel edges,” that reference is subject to retention of the Section 21.908(a) MDS approach and the PCS approach.

In addition, as WCA, NIA and CTN explained in footnote 6 to the First Coalition Supplement, the Commission should require that all measurements relating to MDS/ITFS out-of-band emission limits be taken consistent with the provisions of Section 24.238(b) of the Rules, which applies to the broadband PCS mask. *See* First Coalition Supplement at 3 n.6; 47 C.F.R. §24.238(b)(“Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.”). In addition, as WCA, NIA and CTN noted in that same footnote, consistent with the provisions of Section 24.238(c) and (d) and Section 27.53(a)(6) and (7), (the WCS spectral mask,) the MDS/ITFS rule should provide that “when measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the licensee’s frequency block edges, both upper and lower, as the design permits” and that “the measurements of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power.” First Coalition Supplement at 3 n.6.

services.⁹⁵ However, WCA, NIA and CTN have called for more stringent operational OOBE requirements to be imposed where adjacent channel licensees do not utilize synchronized technologies.⁹⁶ More specifically, WCA, NIA and CTN have proposed that every licensee be required, if requested by a licensee with a GSA that overlaps its GSA, to take such operational steps as are necessary to manage OOBE of base stations located within the overlap area such that they are attenuated below the transmitter power (P_{watts}) by at least $67 + 10 \log(P_{\text{watts}})$ dB measured 3 MHz and beyond inside the frequency block of the requesting licensee (and to take certain additional steps where adjacent channel base stations are located in close proximity to one another).⁹⁷ It is worth emphasizing that this is an operational mask that licensees should be free to meet either through equipment filtering, through devotion of spectrum to guardband, and thus it should have no bearing on equipment certification. The objective of this operational requirement is to limit the applicability of the more stringent spectral mask to those situations where it is needed to protect an adjacent channel licensee, allowing all licensees the flexibility to

⁹⁵ See 47 C.F.R. §§ 22.917(a) (CMRS), 24.238(a) (PCS), 27.53 (WCS) and 90.543(c) (SMR).

⁹⁶ See Second Coalition Supplement at 2-3.

⁹⁷ See *id.* To illustrate the application of this rule, if the licensee of channel A3 (2511-2516.5 MHz) requests that the licensee of channel B1 (2516.5-2522 MHz) comply, the licensee of channel B1 will have to assure that its emissions are attenuated by at least $67 + 10 \log(P_{\text{watts}})$ dB at all frequencies below 2513.5 MHz (*i.e.* 3 MHz in from the nearest A3 channel edge). Within the 2513.5-2516.5 band, the licensee of channel B1 will be required to comply with the general $43 + 10 \log(P_{\text{watts}})$ dB requirement. Similarly, the licensee of channel A3 will be required to attenuate its emissions by at least $67 + 10 \log(P_{\text{watts}})$ dB at all frequencies above 2519.5 MHz (*i.e.* 3 MHz in from the nearest B1 channel edge). As discussed at page 29 of the Initial Coalition Proposal, the written request must certify that the requesting licensee intends to initiate service on the affected adjacent channel group on a date certain (not more than 1 year after the date of the notice), and that the additional attenuation is required due to the respective technical characteristics of its planned facilities and those of the party receiving the request. The request must also provide currently available information with respect to its planned network design comparable in scope to the information required to be filed upon completion of construction of its facilities. The requesting licensee should have an ongoing obligation to advise the recipient of any changes to the network design and any changes as to the date certain on which it will commence service. The recipient should be obligated to meet the more stringent requirement by the date certain specified in the initial request or any supplement thereto (but no earlier than 90 days after receipt of a request or supplement). The licensee making the request must after the date certain specified in its request or any supplement manage its system to provide the same more stringent level of attenuation for the benefit of the recipient licensee.

utilize the transmission equipment that is appropriate where synchronized technologies are deployed on adjacent channels.

The proposed $67 + 10 \log (P_{\text{watts}})$ dB “operational mask” was determined after extensive technical analysis by the WCA Technical Task Group to afford licensees a practical vehicle for deploying non-synchronized technologies without risk of interference in the absence of voluntary coordination. To provide reasonable protection to non-synchronized systems, no system should be required to suffer more than a 1 dB degradation to the noise floor. The result is an adjusted noise floor requirement of -107 dBm.⁹⁸ To satisfy this requirement, two non-synchronized adjacent systems complying with only the $43 + 10 \log (P_{\text{watts}})$ dB mask would require a 24.6 km separation between facilities (assuming 17 dBi gain antennas and line of sight between the facilities). This clearly is unacceptable if two or more non-synchronized systems are to coexist in a single market. By contrast, the 1 dB desensitization criteria can be met as close as 1.5 km away if the required OOB attenuation is increased to $67 + 10 \log (P_{\text{watts}})$ dB measured 3 MHz outside the licensee’s channel edge.⁹⁹

As with the co-channel safe harbor regime, an important objective of this dual mask proposal is to create strong incentives on the part of operators sharing adjacent channel edges to voluntarily coordinate their network designs and deployment. The WCA Technical Task Group concluded that in many cases, even non-synchronized systems can share an adjacent channel edge without interference if available coordination techniques, such as frequency reuse planning

⁹⁸ See Second Coalition Supplement at 6 n.17.

⁹⁹ As noted in the Second Coalition Supplement, compliance with the $67 + 10 \log (P_{\text{watts}})$ dB criteria will not afford sufficient protection at distances closer than 1.5 km. Thus, WCA, NIA and CTN have proposed a mechanism by which facilities can be spaced less than 1.5 km apart, subject to more stringent OOB limits. See Second Coalition Supplement at 3.

and coordinated tower site selection, are employed on a voluntary basis, without the need for additional filtering or guardbands. Because operators will be required to provide additional attenuation of OOBE in the absence of a voluntary agreement, the dual mask proposal creates natural incentives on the part of operators to coordinate. By doing so, operators will be able to minimize the need for guardbands (and thus maximize their available usable spectrum) and/or the need for additional filtering at their base stations (thus minimizing capital costs). The dual mask thus also serves the Commission's goal of maximizing efficiency of spectrum use, and supporting efficient deployments. Again, however, in the absence of voluntary coordination, the more restrictive mask provides regulatory certainty in system design.

WCA, NIA and CTN concede that their proposal is more complex than the single "one size fits all" OOBE limit that the Commission has applied to other services.¹⁰⁰ Nonetheless, WCA, NIA and CTN disagree with the *NPRM's* implication that any "one size fits all" OOBE limit could possibly "minimize harmful interference" where non-synchronized technologies are being deployed adjacent to one another.¹⁰¹ To the contrary, the Coalition Proposal best achieves that objective by tailoring the OOBE limit to the facts – it allows a relatively loose OOBE limit where synchronized systems are deployed and that is all that is needed, while imposing a more stringent limit where licensees, in the exercise of their discretion, elect to employ non-

¹⁰⁰ See *NPRM*, 18 FCC Rcd at 6780-81. The *NPRM* cites to the "one size fits all" OOBE limit adopted for the 700 MHz band flexible use services as precedent for a single $43 + 10 \log (P_{\text{watts}})$ dB OOBE limit. See *id.* However, none of the participants in the rulemaking proceedings that led to the 700 MHz band rules raised the issue of a dual mask for addressing protection of non-synchronized technologies on adjacent channels. Moreover, although the broadband PCS OOBE limit of $43 + 10 \log (P_{\text{watts}})$ dB has been a success, the reality is that PCS licensees without exception utilize the 1850-1910 MHz band for upstream communications and the 1930-1990 MHz band for downstream communications, thus avoiding any situation in which non-synchronized technologies utilize adjacent spectrum.

¹⁰¹ *NPRM*, 18 FCC Rcd at 6780-81.

synchronized systems. Moreover, the Coalition Proposal does so in a manner that accomplishes the objective of the Spectrum Policy Task Force to provide licensees absolute certainty regarding their rights and obligations.¹⁰² If adopted, every licensee will know exactly the level of protection against OOB interference it can demand and exactly the worst case level of OOB attenuation it may have to provide.

The *NPRM* also solicits comments on a similar element of the Coalition Proposal designed to protect ITFS receive sites in the MBS from interference caused by consumer equipment operating in the LBS or UBS. WCA, NIA and CTN recommended that MDS/ITFS consumer equipment be required to be designed such that any emission is attenuated below the transmitter power (P_{watts}) by at least $43 + 10 \log (P_{\text{watts}})$ dB from the edge of the frequency block to 5.5 MHz from that edge, and thereafter is attenuated by at least $55 + 10 \log (P_{\text{watts}})$ dB, unless otherwise agreed by the affected licensee.¹⁰³ However, they have also proposed an additional operational emission mask limiting OOB from transmissions outside the MBS to no greater than -37 dBm EIRP (if the protected MBS channel is operating using analog modulation) or -20 dBm EIRP (if the protected MBS channel is operating using digital modulation) in the MBS.¹⁰⁴ This additional restriction will protect channels in the MBS from interference caused by OOB

¹⁰² See *SPTF Report* at 17-19.

¹⁰³ See First Coalition Supplement at 2-3. The spectral mask WCA, NIA and CTN are proposing for MDS/ITFS customer equipment is somewhat more stringent than that imposed on broadband PCS, the lower 700 MHz band, WCS, and the new WCS services established in the *27 MHz Proceeding*. See 47 C.F.R. § 24.238(a); *Lower 700 MHz Report and Order*, 17 FCC Rcd at 1069; *Amendments to Parts 1, 2, 27 and 90 of the Commission's Rules to License Services in 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*, 17 FCC Rcd 9980, 10029-32 (2002) ["*27 MHz R&O*"]. Nonetheless, WCA, NIA and CTN believe after extensive analysis by WCA's Technical Task Group that the proposed mask is necessary to facilitate flexible use of the LBS and UBS by different technologies, and strikes an appropriate balance – it is neither so stringent that it cannot be achieved without undue cost nor is it so loose as to jeopardize service. See *27 MHz R&O*, 17 FCC Rcd at 10030-31.

¹⁰⁴ These figures were derived in order to provide 1 dB protection to the noise floor of ITFS video operations.

from operations outside the MBS.¹⁰⁵ In response to criticism in the *NPRM*, WCA, NIA and CTN reexamined the proposal in an effort to ameliorate the burden this proposal imposes on licensees.¹⁰⁶ WCA, NIA and CTN have agreed upon one modification at this time, and have agreed to further discuss this issue.

Specifically, WCA, NIA and CTN have determined that fixed stations other than those that are customer-installed (*i.e.* not including any portable or mobile devices) that operate outside the MBS should be entitled to incorporate a 20 dB cross-polarization allowance when the facilities at issue in the MBS are cross-polarized to the signals originating outside the MBS. Thus, under such circumstances the proposed OOB limit becomes -17 dBm EIRP where the MBS facility operates using analog modulation and 0 dBm EIRP where the MBS facility operates using digital modulation.

The *NPRM* inquires as to whether the Commission should specify a frequency tolerance or require equipment to maintain its operations fully within the emission mask at all times.¹⁰⁷ With respect to the LBS, UBS and I, J and K bands, WCA, NIA and CTN submit that application of Section 27.54 of the Rules will suffice. That rule provides that “[t]he frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.”¹⁰⁸ However, with respect to the MBS, where video usage is likely to predominate at least for the short term, the current frequency tolerance rules in Sections 21.101(a) and 74.961

¹⁰⁵ See Initial Coalition Proposal at 30.

¹⁰⁶ See *NPRM*, 18 FCC Rcd at 6780-81.

¹⁰⁷ See *id.* at 6780-81.

¹⁰⁸ 47 C.F.R. § 27.54. Broadband PCS licensees and the General Wireless Communications Service are subject to a similar requirement. See 47 C.F.R. §§ 24.235, 26.54.

will play an important role in limiting interference, particularly where frequency offset techniques are employed and should continue to apply.¹⁰⁹

Finally, the Commission has inquired as to whether it should impose on Mobile Satellite Service (“MSS”) operations below 2500 MHz the same out-of-band emissions limit that were recently imposed on MSS Ancillary Terrestrial Component (“ATC”) operations in the 2 GHz band to protect adjacent mobile PCS operations.¹¹⁰ In its February 10, 2003 *Report and Order* in IB Docket No. 01-185, the Commission required MSS/ATC handsets operating in the 2000-2020 MHz band to be attenuated by at least $70 + 10 \log (P_{\text{watts}})$ below 1995 MHz and above 2025 MHz, to be attenuated in the 1995-2000 MHz and 2020-2025 MHz bands by a value determined by a linear interpolation from $70 + 10 \log (P_{\text{watts}})$ to $43 + 10 \log (P_{\text{watts}})$ dB, and elsewhere to be attenuated by $43 + 10 \log (P_{\text{watts}})$.¹¹¹ At the same time, it mandated that MSS/ATC base stations operating in the 2492.5-2498 MHz band maintain OOB E at their band edge to -44.1 dBW/30 kHz.¹¹² While WCA, NIA and CTN are skeptical as to whether this restriction on out-of-band

¹⁰⁹ See, e.g., *Amendment of Parts 1, 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions; Request For Declaratory Ruling on the Use of Digital Modulation by Multipoint Distribution Service and Instructional Television Fixed Service Stations*, 14 FCC Rcd 12764, 12787 (1999). Indeed, the Coalition Proposal specifically suggests that “the cochannel D/U requirement [which will continue to be applied in the MBS] should be liberalized where both the applicant and the station being studied utilize precise frequency offset equipment in analog systems, or where the applicant proposes to upgrade its station and the station being studied to utilize such equipment. In those cases, it is proposed that the minimum cochannel D/U ratio be reduced to 38 dB, provided that the transmitters have, or will be upgraded to have, the appropriate ‘plus,’ ‘zero,’ or ‘minus’ 10,010 Hertz precision frequency offset with a ± 3 Hz (or better) stability.” Initial Coalition Proposal at 37.

¹¹⁰ See *NPRM*, 18 FCC Rcd at 6780-81. If the Commission is suggesting that the same out-of-band emissions restriction imposed on MSS/ATC at 2 GHz to protect PCS should be imposed on MDS to protect MSS/ATC, the answer is clearly “no.” There is a vast difference between protecting existing PCS equipment and protecting MSS/ATC equipment that is now undergoing development. There is no basis for subjecting MDS/ITFS to onerous restrictions in order to protect MSS/ATC systems that have yet to be deployed.

¹¹¹ See *Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band and the 1.6/2.4 GHz Bands*, 18 FCC Rcd 1962, 2025-26 (2003).

¹¹² See *id.* at 2025-26.

emissions alone, without additional guardband, is sufficient to protect MDS/ITFS operations, they take solace in the fact that Section 25.255 of the Rules makes clear that “[i]f harmful interference is caused to other services by ancillary MSS ATC operations, either from ATC base stations or mobile terminals, the ATC operator must resolve any such interference.”¹¹³ As WCA recently noted in response to suggestions that the 2490-2500 MHz band be reallocated from Big LEO MSS for other uses, retention of this bedrock protection is essential.¹¹⁴

C. The Commission Should Adopt WCA, NIA and CTN’s Proposed Approach To Creating Geographic Service Areas And Protecting Incumbent ITFS Receive Sites.

The Coalition Proposal called for the Commission to create exclusive GSAs out of the current overlapping protected service areas to permit licensees to effectively provide service in or around those overlap areas.¹¹⁵ WCA, NIA and CTN are pleased that the Commission has proposed in the *NPRM* to adopt the GSA concept and the proposed procedures for creating exclusive GSAs in those instances where protected service areas currently overlap.¹¹⁶ However, WCA, NIA and CTN are concerned that the *NPRM* does not propose adoption of their

¹¹³ 47 C.F.R. § 25.255.

¹¹⁴ See Comments of Wireless Communications Ass’n Int’l, IB Docket No. 02-364, at 2-3 (filed July 7, 2003).

¹¹⁵ See Initial Coalition Proposal at App. A. To avoid any confusion, the Commission should make clear that in creating exclusive GSAs pursuant to Appendix A to the Initial Coalition Proposal, great ellipses should be utilized rather than straight lines. When projecting a great ellipse into a flat surface the great ellipse may become a curve (depending on the projection and the position of the great ellipse). This effect becomes more preponderant when the distances involved are greater than 10 km. The generation of GSAs involves intersecting circles and lines that interconnect the intersections, and it is essential that those lines be great ellipses so the intersections can be correctly determined. If great ellipses are not employed, more than one intercept point will be obtained and areas assigned to neither GSA (no man’s land) will result. Analyses have shown that if intersections are calculated based on straight lines, errors of up to 1 km were detected in many cases. The best accuracy is obtained considering the Earth as an ellipsoid and the ellipsoid calculations should be done according to “Map Projections- A working manual” by John P. Snyder of the US Geological Survey. The ellipsoid parameters should be the ones adopted by World Geodetic System 1984, (WGS 84), which is an earth fixed global reference frame, including an earth model. It is defined by the major (equatorial) radius, a , and the minor (polar) radius, b , from which the second-order parameters of flattening (or ellipticity), f , and the eccentricity, e , are derived, where $f = [1-(b/a)]$ and $e^2 = (2f-f^2)$.

¹¹⁶ See *NPRM*, 18 FCC Rcd at 6757-58.

suggestion that registered ITFS receive sites located outside of the newly established GSAs, but within the boundaries of existing Protected Service Areas (“PSAs”), be protected from harmful interference to their reception of MBS signals.¹¹⁷

The *NPRM* identifies three specific concerns with the proposal to grandfather eligible ITFS receive sites in the existing PSA that fall outside the GSA:¹¹⁸ (i) it is inconsistent with the approach taken with respect to geographically licensed services, (ii) ITFS licensees would be required to provide technical information to co-channel and adjacent channel licensees which is “contrary to our goal of reducing regulatory burdens,” and (iii) providing continued protection to such receive sites “could confuse the definition of GSAs for site-licensed incumbents.” The Commission has asked for comment on these concerns.

At the outset, it must be emphasized that the proposal to protect ITFS receive sites outside of GSAs is applicable *only to operations within the MBS*.¹¹⁹ Thus, grandfathering these ITFS receive sites will have no impact whatsoever on the deployment of cellular broadband facilities in the bands optimized for that purpose.

WCA, NIA and CTN believe that continuing the current protection of ITFS receive sites located *within existing PSAs* but that might fall outside of *new GSAs* (but limited to protection of MBS channels) is necessary and justified. Many ITFS stations transmit to receive sites that are currently within their PSAs (generally a circle with a 35 mile radius around the transmission site)

¹¹⁷ See *id.* at 6758-59.

¹¹⁸ The *NPRM* actually refers to grandfathering receive sites outside the PSA, rather than outside the GSA and within the current PSA, which was what the Coalition proposed. There is no current ITFS receive site protection outside of the current PSA, see 47 C.F.R. § 74.903(a)(5), and the Coalition Proposal did not propose to create any such protection.

¹¹⁹ See Initial Coalition Proposal at 35-36.

but that may fall outside of their newly-created GSAs by virtue of the splitting of overlapping PSAs between existing co-channel licensees. Receive sites in these areas of overlapping PSAs are now able to be served on a non-interfering basis because of the front to back discrimination capabilities of ITFS receive antennas. The Coalition Proposal merely sustains the *status quo* with respect to the protection of these sites. The alternative would be the adoption of a rule that results in the loss of existing service to what are likely to be hundreds, if not thousands, of currently protected sites that happen to fall outside of the new GSAs.

Regarding the concerns expressed in the *NPRM* that protecting receive sites outside of GSAs is inconsistent with the approach taken in other geographic licensing services, it bears repeating that WCA, NIA and CTN are not proposing pure geographic licensing for the MBS. Rather, the Coalition Proposal calls for continuation of site-by-site licensing in that band segment.¹²⁰ Moreover, in none of the prior situations cited in the *NPRM* has the Commission sought to shrink a licensee's authorized service area to accommodate the establishment of exclusive service areas (the concept of overlapping protected service areas being unique to MDS/ITFS). As such, the fact that the Commission did not protect existing receive sites in those cases is inapposite, as there were no existing receive sites that might be outside a licensee's new service area.

The *NPRM* also expresses concern that the proposed exchange of technical information among licensees with respect to receive sites would be "contrary to our goal of reducing regulatory burdens."¹²¹ However, the burdens are minimal and far outweighed by the benefit of

¹²⁰ See Initial Coalition Proposal at 33-35.

¹²¹ See *NPRM*, 18 FCC Rcd at 6759.

continued service to existing receive sites. Moreover, the proposed information exchange *will not impose any regulatory burdens on the Commission staff*. Under the proposed approach, the exchange of receive site information would take place routinely between ITFS licensees or between ITFS licensees and a Proponent.¹²² The Commission would not be a party to this sharing of information. Thus, adoption of the proposal would pose no more of a burden on licensees or the Commission than the routine sharing of information in connection with the prior coordination of facilities mandated for other services.

Finally, contrary to the suggestion in the *NPRM*, the receive site protection proposal should not result in any “confusion.” The GSA boundary lines would be unaffected by receive site protection requirements, and the protection requirements themselves would be clear: the receive sites to be protected would be known, and the level of protection required at those receive sites would be established by the Commission’s rules. Indeed, the contemplated protections are merely a continuation of existing protection relationships between licensees. The MDS/ITFS industry has been living for two decades with rules requiring protection to both geographic service areas and to individual receive sites, and has done so without any of the confusion feared by the *NPRM*.

D. The Commission Should Not Impose Standards In The Hope Of Promoting Interoperability Or Roaming.

The *NPRM* asks whether the Commission should adopt standards designed to promote interoperability or roaming.¹²³ WCA, NIA and CTN urge the Commission not to mandate such

¹²² See Initial Coalition Proposal at 36, App. B, p. 14-15.

¹²³ See *NPRM*, 18 FCC Rcd at 6781-82.

standards, but instead to provide MDS/ITFS licensees with technical flexibility that will promote innovation and the development of new service offerings.

The Commission has acknowledged that its “general policy is to allow market forces to determine technical standards wherever possible, and accordingly, we refrain from adopting rules mandating detailed hardware design requirements, unless doing so is necessary to achieve a specific public interest goal.”¹²⁴ For example, when the Commission adopted rules for PCS and SMR services, it opted against the imposition of technological compatibility rules and instead allowed carriers a great deal of flexibility to implement the technology of their choosing.¹²⁵ Yet, as the Commission subsequently recognized, even “[i]n the absence of a Commission-mandated standard for PCS and SMR, carriers have nonetheless established systems providing seamless nationwide service in response to customer demand.”¹²⁶

Subsequently, the Commission refrained from adopting technical standards designed to promote roaming or interoperability where it utilized a “flexible, market-based approach” in the upper 700 MHz band.¹²⁷ Consistent with the flexibility afforded 700 MHz licenses to provide a wide range of services utilizing a wide range of technologies, the Commission merely “orient[ed] our technical and service rules primarily to enable the efficient and intensive use of these bands

¹²⁴ *Id.* at 6741-42.

¹²⁵ *Amendment of Part 90, Subpart M and S, of the Commission’s Rules*, 3 FCC Rcd 1838, 1849 (1988); *Amendment of the Commission’s Rules to Establish New Personal Communications Service*, 9 FCC Rcd 6908, 6921 (1994); *Amendment of the Commission’s Rules to Establish New Personal Communications Service*, 9 FCC Rcd 4957, 5022 (1994); see also *In the Matter of Amendment of Part 90 of the Commission’s Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Bank*, 13 FCC Rcd 1533, 1533-34 (1997); *Amendment of the Commission’s Rules to Permit Flexibility Service in Commercial Mobile Radio Service*, 11 FCC Rcd 8965, 8975-76 (1996).

¹²⁶ *Year 2000 Biennial Regulatory Review – Amendment of Part 22 of the Commission’s Rules to Modify or Eliminate Outdated Rules Affecting the Cellular Radiotelephone Service and other Commercial Mobile Radio Services*, 17 FCC Rcd 18401, 18410-11 (2002).

¹²⁷ *Upper 700 MHz First R&O*, 15 FCC Rcd at 477-78.

for wireless service...[to] allow the broadest degree of flexibility possible, consistent with technical interference limits and their economic consequences.”¹²⁸

More recently, the Commission declined to adopt any interoperability or roaming standards for the 4.9 GHz band. The Commission declined to “depart from our long standing goals of minimal regulation and licensee flexibility.”¹²⁹ The Commission was rightfully concerned that:

[T]he adoption of any particular standard could preclude newer technologies, and hence impose restrictions on users that would impede their ability to benefit from future equipment that enhances public safety operations. Moreover, inasmuch as this is a new band, consideration must be given to the possibility that the current visions for the band may change, especially considering the wide flexibility that users have been afforded for operations in the band.¹³⁰

Furthermore, the Commission correctly doubted that the imposition of a standard would actually create interoperability benefits. Rather, the Commission “believed that interoperability goals can be attained without imposing equipment standards on users and manufacturers, especially in light of the fact that such an imposition may actually serve to hinder the ability of public safety entities from utilizing emerging technologies in the band.”¹³¹

These reasons apply as much to MDS and ITFS as to the services discussed above. As a result, WCA, NIA and CTN urge the Commission to allow market forces, not mandatory standards, to shape interoperability and roaming.

¹²⁸ *Id.* at 485-86.

¹²⁹ *The 4.9 GHz Band Transferred From Federal Government Use*, 18 FCC Rcd 9152, 9172 (2003)(footnote omitted).

¹³⁰ *Id.*

¹³¹ *Id.* at 9172.

E. Commission Consideration Of Unlicensed Operations In the 2500-2655 MHz Band Is Premature and Imprudent At This Juncture.

The *NPRM* seeks comment on whether to introduce unlicensed underlay operations in the 2500-2655 MHz band.¹³² It suggests that recent advances in technology, including “listen-before-talk” and GPS location capabilities, may enable new types of devices to operate in licensed spectrum “on a secondary, non-interference basis” to licensed services.¹³³ As noted above in Section II.G, WCA, NIA and CTN do not dispute that these technologies may evolve to the point that, some day, licensees will elect to provide others with opportunistic or underlay access to licensed MDS/ITFS spectrum under conditions that address the potential for interference and provide licensees with compensation for the interference they suffer and the possible future innovations they may have to forego. However, for the reasons set forth below, the Commission should avoid precipitous action allowing unlicensed uses of the 2.5 GHz band that could undermine the evolution of the band as a home to wireless broadband. Rather than rush to judgments that could degrade the quality of licensed services and inhibit future technological advances that would increase operating efficiency or provide valuable new services to the public, the Commission should instead undertake a more comprehensive study of

¹³² See *NPRM*, 18 FCC Rcd at 6782-83.

¹³³ *Id.* at 6782. WCA, NIA and CTN are pleased that the *NPRM* does not propose to introduce the Spectrum Policy Task Force’s “interference temperature” concept into this proceeding. That concept, which effectively requires a licensee to accept interference from underlay devices if it does not utilize equipment capable of operating in the presence of the interference temperature, is fraught with danger. Indeed, even the recent white paper by the staff on unlicensed spectrum use recognizes that the Commission must “handle[] carefully” any introduction of the interference temperature concept for allowing unlicensed users to access licensed spectrum. Carter, Lahjouji and McNeil, “Unlicensed and Unshackled: A Joint OSP-OET White Paper on Unlicensed Devices and Their Regulatory Issues,” OSP Working Paper No. 39, at 47 (rel. May 21, 2003). As AT&T Wireless correctly noted in response to that white paper “[w]hile there is a great focus on the futuristic possibilities of unlicensed devices sharing licensed spectrum, the interference temperature metric poses real consequences for the Commission’s market-oriented spectrum licensing regime. In large part, these unresolved issues concern the impact that the interference temperature concept would have on licensed providers’ interference protection rights and their ability to innovate.” Comments of AT&T Wireless Service, ET Docket No. 03-126, at 4 (filed Aug. 21, 2003)[“AT&T Wireless Comments”].

these evolving opportunistic and underlay technologies. Only when it is certain that these technologies can operate on a secondary, non-interfering basis and that such operations will not undermine innovation by licensees should the Commission seriously consider new rules allowing unlicensed operations in the 2500-2655 MHz band.

The *NPRM* borrows heavily from the Commission's *Notice of Inquiry* in ET Docket No. 02-380 ("*NOI*"), which explores the feasibility of introducing unlicensed devices into TV broadcast spectrum and the 3650-3700 MHz band.¹³⁴ Although the Commission adopted the *NPRM* in this proceeding just three months after issuing the *NOI* – and two months *before* comments were due in that proceeding – it nonetheless asks whether rules should be adopted governing the 2.5 GHz band concerning the very same unlicensed underlay concepts under study in the 3650-3700 MHz band. The short answer is “no.” It is far too early in the evolution of underlay technologies for the Commission to seriously consider the adoption of such underlay rules, especially in the 2500-2655 MHz band.

For all of their promise, opportunistic and underlay technologies are unproven. The Commission must ensure through testing that any unlicensed use of 2.5 GHz band will protect licensed users from any interference before the Commission authorizes their unlicensed deployment. While the *NPRM* notes that Intel and Microsoft filed reply comments in response to the *WTB Public Notice* in support of unlicensed underlays, the *NPRM* fails to note that neither of these companies has provided the Commission with even any evidence that unlicensed underlay operations actually can operate on the secondary, non-interference basis envisioned in the

¹³⁴ See *Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, 17 FCC Rcd 25632 (2002).

NPRM.¹³⁵ Indeed, in reply comments recently filed by Microsoft in ET Docket No. 03-65, Microsoft goes so far as to contend that “[i]n any band in which the Commission authorizes underlay devices, there will be a non-zero possibility of interference.”¹³⁶ If that is so (and WCA, NIA and CTN have no evidence that Microsoft is incorrect in this regard), then it will be impossible for unlicensed underlay operations to operate on a secondary, non-interference basis.

Microsoft’s candid concession illustrates that any consideration of unlicensed underlay operations in licensed MDS/ITFS spectrum demands that the Commission exercise extreme caution. As Sprint Corporation previously noted, “[a] Commission mistake in this area could have profound long-lasting negative consequences.”¹³⁷ Similarly, the *SPTF Report* recognized that once unlicensed devices enter the marketplace, “it may be difficult legally or politically to shut down their operations even if they begin to cause interference or otherwise limit the licensed user’s flexibility.”¹³⁸

Accordingly, comprehensive testing that proves the ability to operate on a secondary, non-interference basis is necessary *before* the Commission relies on technological advancements as the basis to introduce unlicensed underlay operations. Even leaving aside Microsoft’s admissions that some interference is inevitable, the record developed in the *NOI* proceeding demonstrates that the thorough review and testing of these new underlay technologies, including “listen-before-talk” and GPS location capabilities, has not yet occurred. As one set of commenters observed in response to the *NOI*, these so-called “sensing” technologies “are still in

¹³⁵ See *NPRM*, 18 FCC Rcd at 6782.

¹³⁶ Reply Comments of Microsoft, ET Docket No. 03-65, at 4 (filed Aug. 18, 2003).

¹³⁷ Reply Comments of Sprint, ET Docket No. 02-380, at 2 (filed May 22, 2003).

¹³⁸ *SPTF Report* at 58.

development and certainly have not been subject to the rigorous testing needed to determine whether they are effective in preventing interference in real-world settings”¹³⁹

Furthermore, the Commission must explore “the potential impact” of such technologies “on the expectations, business plans, and investment made by licensed spectrum users.”¹⁴⁰ With billions of dollars of investment required for the deployment of licensed services at 2.5 GHz, the Commission should avoid a hurried decision that embraces unproven promises of interference-avoiding technologies, but drives away investment in broadband and other much-needed licensed services. This is particularly true here, where the *NPRM* is exploring the use of MDS and ITFS spectrum to provide a variety of mobile service offerings, and significant doubts have been raised regarding the ability of unlicensed technologies to protect licensed mobile operations from harmful interference. Indeed, even those *NOI* commenters that support the introduction of unlicensed operations in the broadcast spectrum and the 3650-3700 MHz band acknowledge that sensing technologies will be challenged in a mobile environment.¹⁴¹ Unlicensed opportunistic use and underlay rules, absent evidence that technology exists to protect licensees’ operations, would only undermine efforts to exercise the service flexibility that this proceeding is aimed at achieving and could deter the substantial investment that is required for the 2.5 GHz band to emerge as a viable resource for wireless broadband services.

Finally, the Commission has yet to grapple with the broad policy and legal implications raised by unlicensed underlay operations. Of immediate concern to WCA, NIA and CTN is the

¹³⁹ Comments of MSTV/NAB/APTS, ET Docket No. 02-380 at 3 (filed Apr. 17, 2003).

¹⁴⁰ *SPTF Report* at 58.

¹⁴¹ *See, e.g.*, Comments of Intel Corporation, Inc., ET Docket No. 02-380, at 7 (filed Apr. 17, 2003) (“[T]he static, fixed nature of TV broadcasting makes sharing much easier than would be the case for services operating on an intermittent or mobile basis.”).

risk that unlicensed authorization of opportunistic use or underlays will preclude licensees from making the most innovative and efficient use of the radio spectrum over time. As unlicensed devices emerge in a licensed band, the ability of licensed users to introduce their own innovations inevitably will be stifled. Again, one cannot ignore that, for political reasons, the Commission is unlikely to protect future innovations introduced by licensees against interference from unlicensed opportunistic or underlay devices that may become popular (particularly those that have made inroads into the consumer market) notwithstanding the secondary status of such opportunistic or underlay devices. As Cingular Wireless LLC recently discussed in ET Docket No. 03-126, wireless licensees have a long history of innovation that likely would not have been possible had underlays been permitted in the early years.¹⁴² The same is likely to hold true here – if the Commission allows unlicensed opportunistic or underlay use of the 2.5 GHz band, it runs the risk that current technologies will be frozen in place and that licensees will be unable to introduce new services or increase spectral efficiency in the future.

F. The Commission Should Adopt Appropriate Restrictions On Transmissions By Subscriber Units.

The *NPRM* solicits comment on a proposal submitted by IPWireless and an industry coalition led by WCA in May 2000 regarding the appropriate level of RF Gaussian noise that a subscriber station be permitted to emit when not engaged in direct communications with a base station. Comments on that proposal were initially solicited in response to a *Further Notice of Proposed Rulemaking* in MM Docket No. 97-217¹⁴³ and the responses supported adoption of the

¹⁴² See Comments of Cingular Wireless, ET Docket No. 03-126, at 6-8 (filed Aug. 21, 2003). See also AT&T Wireless Comments at 5-6.

¹⁴³ *Amendments of Parts 1, 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions*, 15 FCC Rcd 14566 (2000).

proposed rules (although the coalition urged the Commission to clarify that the limits be measured over a 1 MHz resolution bandwidth and that emissions up to 10 microvolts/meter for each 1 MHz would not be permitted).¹⁴⁴

WCA, NIA and CTN support adoption of the limitations that have been suggested. While it may be, as noted in the *NPRM*, that a similar requirement has not been imposed on other flexible use services, that does not obviate the need. Absent the adoption of restrictions on emissions by subscriber units when not engaged in communications with their base stations, interference may result. The simple fact is that a subscriber unit will inevitably radiate some amount of energy in the form of wideband noise, even when not transmitting to a base station. The amount of such radiated energy depends upon the output noise from the combination of the modulator, one or more upconversion stages, and the output amplifiers, plus the gain of the antenna used for each installation. This wideband noise will appear on all the channels in the band on which the device is designed to operate, even channels that are not used by the particular system operator.

And therein lies the problem. If there were but one system operator in a given geographic area and no potential for roaming, the Commission could allow the marketplace to establish appropriate standards for transceiver performance. The sole operator in each market could make its own assessment of the need to control wideband noise (which need increases as the number of transceivers increases) and utilize subscriber devices that minimized equipment costs without jeopardizing the desired quality of service. However, where more than one entity

¹⁴⁴ See Comments of Petitioners, MM Docket No. 97-217, at 5-6 (filed Aug. 21, 2000); Reply Comments of BellSouth Wireless Cable, MM Docket No. 97-217 (filed Aug. 31, 2000).

has acquired or leased MDS/ITFS channels to deploy competing wireless broadband systems, a marketplace solution to the issue of subscriber unit noise may not work.

The nature of the problem is best illustrated by example. Assume an operator with just a handful of channels that desires to deploy inexpensive but “noisy” equipment to provide a low-cost, low speed, low-quality service. Its decision to utilize equipment that generates excessive wideband noise not only dictates the nature of that operator’s service, but jeopardizes other operators’ ability to productively utilize other channels in the market for a higher quality service offering. Although the wideband noise generated by any single unit will be quite small, within a given area there are can be a relatively large number of subscriber units all aimed at a base station. Consequently, without appropriate power limitations, the power that might be accumulated at the base station from all the off-state subscriber units could become sufficient to interfere with desired communications. Stated differently, absent a reasonable restriction on the emission of wideband noise by inactive transceivers, the lowest common denominator will control the nature of all services offered in a given market.

Subsequent to the formal pleading cycle on the *Further Notice of Proposed Rulemaking*, WCA submitted an ex parte filing in which it addressed transitional issues presented by the proposal. Specifically, WCA urged the Commission to take two steps to ease the transition:

First, the Commission should provide at least nine months between the release of the new rules and the effective date of those rules. This will provide vendors with sufficient opportunity to modify their designs to meet the new rules and to secure necessary Commission authorization to market that redesigned equipment.

Second, the Commission should “grandfather” those response stations manufactured prior to the effective date of the new rules and permit that equipment to be used in perpetuity. Because emissions from non-transmitting response stations only become a concern when a relatively large number of response stations are deployed in a concentrated area, grandfathering under the

present circumstances does not pose a threat. As the Commission is aware, most MDS/ITFS-based broadband system operators have slowed or suspended deployment pending the development of second-generation technology. The Commission should be able to resolve this proceeding and adopt new rules long before second generation equipment is ready to be manufactured on a wide scale. Given the relatively small number of response stations that exist today or are likely to be manufactured prior to the effective date of any new rules, the operation of those response stations after the new rules go into effect is not likely to have any material adverse impact on adjacent channel operations. However, were the Commission not to grandfather pre-rule response stations, vendors (many of whom are small businesses) would be financially burdened by the need to scrap suddenly-obsolete inventory, and system operators (many of whom are also small businesses) would be required to incur substantial expense in replacing equipment long before the end of its useful life. Moreover, WCA's grandfathering approach is fully consistent with Commission precedent designed to avoid unnecessary obsolescence of equipment following technical rule changes.¹⁴⁵

Although not addressed in the *NPRM*, WCA, NIA and CTN submit that adoption of these transitional steps would be appropriate, and should be adopted, for the reasons explained by WCA.

The *NPRM* also solicits comment on "requiring that subscriber handsets not transmit unless a base station pilot is present."¹⁴⁶ While not mentioned in the *NPRM*, a similar requirement is already applicable to MDS and ITFS response stations.¹⁴⁷ Although the Commission has not imposed such a requirement on other Part 27 services, WCA, NIA and CTN do not object to retaining it for MDS and ITFS.

¹⁴⁵ See Letter from Paul J. Sinderbrand to William F. Caton, MM Docket No. 97-217 (filed Feb. 26, 2002), citing *Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them and Examination of Exclusivity and Frequency Assignment Policies of the Private Land Mobile Services*, 14 FCC Rcd 8642, 8665 (1999); *Amendment of the Commission's Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Bands*, 12 FCC Rcd 18600, 18631 (1997) ["39 GHz Order"].

¹⁴⁶ See *NPRM*, 18 FCC Rcd at 6786.

¹⁴⁷ See 47 C.F.R. §§ 21.909(m); 74.939(o).

G. The Commission Should Reduce The Minimum Required Adjacent Channel Desired-To-Undesired Signal Ratio Applicable To The MBS From 0 dB To -10 dB.

Under Sections 21.902, 21.909, 74.903 and 74.939 of the Rules, an applicant for a new or modified MDS or ITFS facility generally must establish that the predicted desired-to-undesired (“D/U”) signal strength ratio resulting from its proposal is greater than the lesser of 0 dB or the pre-application predicted D/U ratio with respect to any adjacent channel PSA or at any protected ITFS receive site. In the Coalition Proposal, WCA, NIA and CTN called upon the Commission to retain that 0 dB requirement adjacent channel D/U standard for protection of operations in the MBS, subject to a series of exceptions designed to avoid unduly precluding new or modified facilities where the 0 dB D/U standard would be overly-protective.¹⁴⁸ At the same time, WCA, NIA and CTN reported that they were exploring the possibility of reducing the 0 dB standard where the victim system is operating with digital modulation, and would report to the Commission were an agreement reached.¹⁴⁹

¹⁴⁸ See Initial Coalition Proposal at 37. As an exception, WCA, NIA and CTN proposed that where a grandfathered ITFS receive site outside the GSA utilizes receivers that have an adjacent channel rejection ratio that can tolerate less than 0 dB or in the event the applicant commits to supply such receivers, the predicted adjacent channel D/U ratio at such receive site shall equal or exceed such negative adjacent channel ratio. See *id.* In addition, the Coalition Plan proposed that to avoid protecting ITFS receive sites or GSA locations where desired signal levels are unduly low, an applicant should not be required to comply with the adjacent channel D/U requirements with respect to any point within a GSA or any protected ITFS receive site outside a GSA that is not predicted to receive a desired signal carrier level of ≥ -80 dBm. See *id.* WCA, NIA and CTN also proposed that only a predicted undesired signal level greater than -106.2 dBm should be considered to be an undesired signal for purposes the D/U requirements, again to avoid having the 0 dB standard be unduly restrictive. See *id.* at 37-38. And, the Coalition Proposal called for the establishment of a $<0.5\%$ *de minimis* exception. See *id.* at 38. In addition, in connection with the transition plan set forth in Appendix B to the Coalition Proposal, a Proponent would be required with respect to eligible receive sites to produce an actual adjacent channel D/U ratio that equals or exceeds the lesser of 0 dB or the actual pre-transition D/U ratio. See Initial Coalition Proposal at App. B, p. 9. Finally, WCA, NIA and CTN proposed another exception -- in the event that the eligible receive site utilizes receivers, or is upgraded by the Proponent as part of the Transition Plan to utilize receivers, that can tolerate negative adjacent channel D/U ratios, the actual adjacent channel D/U ratio at such receive site must equal or exceed such negative adjacent channel D/U ratio. See *id.*

¹⁴⁹ See *id.* at 37 n.96.

Upon further evaluation, WCA, NIA and CTN now believe that the 0 dB D/U adjacent channel standard can safely be changed to a -10 dB D/U standard, and that this new standard can be employed whether the victim system is using analog or digital modulation. Given the widespread deployment of television receivers that can tolerate a -10 dB adjacent channel D/U signal ratio without suffering material signal degradation, WCA, NIA and CTN agree that it would be overly-preclusive to retain the 0 dB standard to protect the relatively few television receivers still in use that require such a high level of protection. In addition, WCA, NIA and CTN continue to advocate adoption of the various exceptions to the adjacent channel interference requirement that were advanced in the Coalition Proposal.¹⁵⁰

For similar reasons, WCA, NIA and CTN modify the proposal advanced in the First Coalition Supplement that, absent the consent of the neighboring A4 channel licensee in the case of a J channel or the consent of the neighboring G4 licensee in the case of a K channel, a J or K channel licensee be required to restrict its EIRP to -40.34 dBm within a 500 kHz channel. As explained in the First Coalition Supplement, this proposal was designed to provide MBS licensees on the A4 and G4 channels protection against adjacent channel interference from the Transition Bands, and was calculated based on a 0 dB adjacent channel standard. Given the agreement that a -10 dB D/U adjacent channel standard is appropriate, the Commission should allow operations in the Transition Bands with an EIRP of no more than -30.34 dBm.¹⁵¹

¹⁵⁰ See *supra* at note 148.

¹⁵¹ Note, however, that the OOB mask applied to licensees outside the MBS that is designed to protect MBS operations discussed above in Section IV.B would still apply.

V. THE COMMISSION MUST ASSURE THAT THE AUTHORIZATION OF OPERATIONS IN THE GULF OF MEXICO NOT ADVERSELY IMPACT THE PROVISION OF LAND-BASED SERVICES USING THE 2.5 GHZ BAND.

Despite a record developed in response to the *Notice of Proposed Rulemaking* in WT Docket No. 02-68 (the “*Gulf NPRM*”)¹⁵² and predecessor proceedings that raised substantial questions as to the demand for services to be delivered over the 2.5 GHz band in areas of the Gulf of Mexico not presently within MDS and ITFS licensees’ service areas,¹⁵³ the Commission has decided to press ahead with the licensing of facilities that will operate in the 2.5 GHz band within the Gulf of Mexico beyond present service areas.¹⁵⁴ As the Commission crafts a regulatory regime to govern the operation of facilities in the Gulf, it is essential that the Commission both fully protect land-based operations and not hamper the deployment of land-based systems designed to serve the significant population centers that are within either the protected service areas afforded incumbent MDS/ITFS licensees or holders of the MDS Basic Trading Area (“BTA”) authorizations auctioned in 1996.

The basis for the concern of WCA, NIA and CTN is a matter of record before the Commission – interference protection rules applicable to Gulf operations must be carefully

¹⁵² *Amendment of Parts 21 and 74 of the Commission’s Rules With Regard to Licensing in the Multipoint Distribution Service and the Instructional Television Fixed Service for the Gulf of Mexico*, 17 FCC Rcd 8446 (2002)[“*Gulf NPRM*”].

¹⁵³ The lack of a record regarding the demand for spectrum in the Gulf was highlighted in the *Gulf NPRM* itself, which noted, among other things, that substantial service can be provided to an area as scarcely populated as the Gulf with just a single 6 MHz channel and that there is alternative spectrum available in other services that can be used to meet the service needs of the Gulf. *See id.* at 8451. *See also e.g.* Opposition of Wireless Communications Ass’n Int’l to Petition for Rule Making, RM-9718, at 3-8 (filed Sept. 10, 1999)[“WCA Opposition to Gulf Petition”]; Letter from Paul J. Sinderbrand to Magalie Roman Salas, RM-9718, at 1 (filed Oct. 8, 1999)(“[T]he Commission should not even be contemplating the auctioning of Gulf of Mexico MDS/ITFS licenses until it is demonstrated that a demand exists which cannot be met through other, already allocated, spectrum.”); Opposition of Wireless One and Heartland Wireless Communications to Petition for Rule Making, DA 96-1721, at 16-17 (filed Nov. 18, 1996)[“Wireless One Opposition”].

¹⁵⁴ *See NPRM*, 18 FCC Rcd at 6760-62.

designed to assure that facilities designed to serve the miniscule number of persons in any new Gulf Service Area not jeopardize service to the 20.4 million people who reside in the BTAs that border the Gulf of Mexico.¹⁵⁵ Indeed, in the cellular radio service, the Commission has struggled for years to modify its rules so that land-based carriers can serve the dense population centers at or near the coastline without interference from those providing service in the Gulf.¹⁵⁶ The problems encountered in the cellular service can and should be avoided here.

As discussed above, the new MDS/ITFS rules will have to be carefully structured to permit co-channel operations near service area boundaries without interference.¹⁵⁷ As difficult as it will be to provide ubiquitous service near GSA boundaries under the best of circumstances, the problems of doing so will be compounded by the unusual RF propagation characteristics in the Gulf that result from “ducting” unless the Commission moves with great care in licensing services in the Gulf. WCA, NIA and CTN are not alone in that concern; Section 21.902(C)(1)(ii) of the Rules already imposes special interference protection obligations where signals will propagate over large bodies of water, and the Commission reiterated its concerns over potential interference in the *Gulf NPRM*

The primary problem, as succinctly summarized in the *Gulf NPRM*, is this:

[T]he overriding issue with respect to possible interference from, and to, Gulf systems is the matter of signal propagation, specifically, the propagation of signals over large bodies of water. Although not an exact science, the process of

¹⁵⁵ See COMMERCIAL ATLAS & MARKETING GUIDE 2003, RAND McNALLY (2003). This represents an increase from the 16.7 million residents of the Gulf coast that WCA had reported in 1999, an increase that only exacerbates the adverse consequences that will befall the public if the Commission’s efforts to license the Gulf hamper operations on land. See WCA Opposition to Gulf Petition at 8.

¹⁵⁶ See *Cellular Service and Other Commercial Mobile Radio Services in the Gulf of Mexico*, 17 FCC Rcd 1209 (2002)[“*Gulf CMRS Order*”]; *Cellular Service and Other Commercial Mobile Radio Services in the Gulf of Mexico*, FCC 03-130, WT Docket No. 97-112 (rel. June 27, 2003)[“*Gulf CMRS Reconsideration Order*”].

¹⁵⁷ See *supra* at Section IV.A.

evaluating the propagation of signals over land masses has been refined to the point where the results of applying widely-accepted propagation models, such as the modified Epstein/Peterson model required by the Commission's *Two-Way Order* for MDS and ITFS two-way systems, are sufficiently reliable for all but the most unusual signal paths. Unfortunately, the propagation of signals over large bodies of water can differ markedly from signal propagation over land and no comparably acceptable and standardized model is available for calculating over-water propagation. The principal difference involved, at least with respect to Gulf waters, is the presence of "ducting" along the signal path. Simply put, ducting is a phenomenon whereby a radio signal is trapped within and between stratified layers of the atmosphere which have non-uniform refractivity indexes. This layering is caused by climatological processes such as subsidence, advection, surface heating and radiative cooling and the ducts created due to these factors can extend for distances of tens to hundreds of miles. Ducting of signals, including MDS/ITFS microwave signals, enables these signals to travel relatively unattenuated for distances far greater than would occur without the presence of the duct.¹⁵⁸

As recognized by the Commission in the *Gulf NPRM*, there are two significant upshots of the ducting phenomenon. First, the Commission concluded that there was a "certainty that ducting will occur between Gulf and land-based stations," that this ducting will cause interference over much greater distances than caused by land-based systems, and that Gulf-based systems must therefore comply with interference protection requirements that are more stringent than those imposed on land-based facilities.¹⁵⁹ Second, the Commission concluded that "it will be virtually impossible for current licensees to achieve [full coverage of the population along the Gulf coast] if they must afford full interference protection to Gulf of Mexico systems."¹⁶⁰ Thus, the Commission determined that:

Given the much greater population density of the land-based relative to Gulf systems, the steps taken to modify one land-based main or booster station so that it can fully protect a very few Gulf stations might mean the loss of service to

¹⁵⁸ *Gulf NPRM*, 17 FCC Rcd at 8463-64.

¹⁵⁹ *See id.* at 8465-66 (footnotes omitted).

¹⁶⁰ *See id.* at 8467.

hundreds or thousands of households in the urban or suburban area the main or booster station was designed to serve. We believe this tradeoff would be unacceptable and we are therefore proposing that land-based stations be allowed to provide a lesser degree of protection to Gulf stations than Gulf stations must provide to land stations.¹⁶¹

To address these concerns, the *Gulf NPRM* proposed that applicants for facilities in the new Gulf Service Area be required to conduct their pre-licensing interference analyses assuming flat earth when analyzing interference to facilities within 20 miles of the Gulf, and assuming a hybrid combination of flat earth and standard Epstein/Peterson propagation models when analyzing interference to facilities further inland.¹⁶² The Commission did not propose to impose on applicants for land-based stations any obligation to consider ducting when conducting their pre-licensing interference studies.

With respect to the licensing of facilities in the MBS, WCA, NIA and CTN believe that the proposals advanced in the *Gulf NPRM* fairly achieve the Commission's objective of assuring that land-based facilities not be hampered by future activities in the Gulf. Adoption of the revised propagation model to be used by any applicant for a license for a new or modified facility in the new Gulf service area in predicting undesired signal levels appears well-designed to provide adequate protection to land-based facilities. A somewhat different approach, however, is required for spectrum outside the MBS because the Coalition Proposal and the *NPRM* envision abandonment of the current system of site-by-site licensing based on predictions of desired-to-undesired signal ratios for non-MBS spectrum. Rather, as is discussed *supra* in

¹⁶¹ *Id.*

¹⁶² *See Gulf NPRM*, 17 FCC Rcd at 8466.

Section IV.A, the *NPRM* explores the regulation of cochannel interference through two sets of rules. Each presents unique issues when applied to the Gulf, and will be discussed in turn.

First, the *NPRM* proposes to control cochannel interference through the adoption of a limit on signal strength at the GSA boundary.¹⁶³ Consistent with the Coalition Proposal, the Commission has suggested that each licensee should be required to limit its signal level to no greater than 47 dB μ V/m beyond its GSA.¹⁶⁴ The problem, as foreshadowed in the *Gulf NPRM*, is that Gulf systems must be designed with ducting in mind to assure that ducting not result in excessive signal strength at the service area boundary of land-based facilities. However, if land-based licensees are forced to limit their signal strengths near the coast, particularly if they are forced to do so to accommodate the potential for ducting, then service to the highly-populated areas near the Gulf coast will be seriously jeopardized.

Second, the Coalition Proposal acknowledges that in those cases where adjacent system operators do not utilize synchronized technology, the potential for interference exists even where the proposed signal strength limit at the boundary is met.¹⁶⁵ Thus, the Coalition has proposed that the Commission require the licensee of a base station constructed above its “safe harbor” height to reduce its signal strength as measured at a base station in a neighboring GSA that is within its “safe harbor.” As discussed above in Section IV.A, the calculation of a given station’s safe harbor height is based on line-of-sight predictions using a standard formula. With respect to stations in the Gulf, however, ducting can result in the reception of signals far beyond the line-

¹⁶³ See *NPRM*, 18 FCC Rcd at 6777.

¹⁶⁴ See *id.*; Initial Coalition Proposal at 26-27. See also, e.g. 47 C.F.R. § 27.55 (WCS); 47 C.F.R. § 24.236 (PCS).

¹⁶⁵ See Initial Coalition Proposal at 27-28.

of-sight prediction under that formula, and thus the safe harbor formula will not provide the requisite protection.

In light of the foregoing, WCA, NIA and CTN believe that certain bedrock requirements should be applied in connection with operations in any new Gulf service area.

First, as proposed in the *Gulf NPRM*, the service area of any Gulf MDS auction winner should exclude the circular 35 mile radius protected service areas of any incumbent MDS or ITFS licensees, just as the service area awarded to any land-based MDS BTA auction winner excludes the protected service area of an incumbent pursuant to 47 C.F.R. §21.933(a).¹⁶⁶ As illustrated by the record developed in response to the *Gulf NPRM*, land-based licensees have provided service into the Gulf in the past,¹⁶⁷ and WCA, NIA and CTN believe that broadband services will prove particularly attractive to boaters and others within existing protected service areas. There is no basis for allowing any new Gulf auction winner to encroach upon existing protected service areas.

Second, the Commission should reaffirm that MDS BTA authorizations for areas bordering the Gulf extend at least to the boundaries of the counties that comprise the BTA, including areas that are within counties but beyond the coastline. Earlier this year the Commission reaffirmed that broadband PCS service areas, which are based on BTAs just like MDS auctioned service areas, extend into the Gulf to the full extent of county boundaries under

¹⁶⁶ See *Gulf NPRM*, 17 FCC Rcd at 8448-49.

¹⁶⁷ See, e.g., *Wireless One Opposition* at 2.

applicable state law.¹⁶⁸ There is absolutely no basis for interpreting the rights acquired by MDS BTA authorization holders at auction as anything less.¹⁶⁹

While WCA, NIA and CTN are not proposing any expansion of the exclusive service areas afforded MDS BTA authorization holders or incumbents,¹⁷⁰ in order to assure that operations in the Gulf not hamper the provision of service on land, WCA, NIA and CTN urge the Commission to adopt the proposal in the *Gulf NPRM* and draw the innermost boundary of a new “Gulf Service Area” at the limit of the territorial waters of the United States in the Gulf, which is approximately 12 nautical miles from the coastline.¹⁷¹ As noted in the *Gulf NPRM*, this is the same boundary that was used in another flexible use service – the 2.3 GHz band WCS.¹⁷² In fact, since the release of the *Gulf NPRM* the Commission has consistently employed that same boundary in adopting rules for new flexible use services regulated under Part 27, including the

¹⁶⁸ See *Gulf CMRS Reconsideration Order* at ¶ 39.

¹⁶⁹ The Commission’s holding in the *Gulf CMRS Reconsideration Order*, which expressly acknowledges that BTA boundaries extend well into the Gulf of Mexico (*see id.* at ¶ 36 n.68), is particularly significant in that it illustrates the fallacy in arguments by PetroCom that the BTA boundary occurs at the land-water line. See *NPRM*, 18 FCC Rcd at 6762. Indeed, given the Commission’s recent acknowledgement that defining the boundary for cellular at the coastline created a situation in which “land-based carriers seeking to cover shore areas...were unable to site transmitters close to the shoreline without incurring substantial engineering costs to avoid their signals being transmitted over water,” it would be bizarre for the Commission to repeat its mistake and adopt a similar boundary here. *Gulf CMRS Order*, 17 FCC Rcd at 1211.

¹⁷⁰ WCA, NIA and CTN continue to believe, as WCA has expressed previously, that the public interest would best be served were the Commission to do as it proposed in the *Gulf NPRM* and extend the authorized service area of MDS BTA holders to the limit of the territorial waters of the United States. However, in light of the decision to limit the authorized service area of broadband PCS licensees to county boundaries, WCA, NIA and CTN believe that pressing that argument would be fruitless, and therefore have focused its attention on an approach that will assure protection for land-based operations even with the BTA boundary being limited to county boundaries.

¹⁷¹ See *Gulf NPRM* at 8452-53.

¹⁷² See *id.* at 8453.

upper 700 MHz band,¹⁷³ the 700 MHz guardband,¹⁷⁴ the 1390-1392 MHz band,¹⁷⁵ and the 1392-1395/1432-1435 MHz bands.¹⁷⁶

At the same time, the Commission should follow the approach taken in its recent proceedings regarding cellular service in the Gulf and establish a “Gulf Coastal Zone” that would extend from the boundaries of the BTAs bordering the Gulf to the limit of the territorial waters of the United States (*i.e.*, the inner boundary of the new Gulf Service Area). Within the Gulf Coastal Zone, the holder of either the adjacent BTA authorization or the Gulf Service Area authorization could provide service, so long as it meets the proposed cochannel interference protection requirements at the other’s service area boundary.¹⁷⁷ The Commission has recognized “there are no offshore oil and gas drilling platforms on which to site cellular facilities” and there is “no likelihood of such platforms being constructed in the Eastern Gulf any time in the near future.”¹⁷⁸ Thus, WCA, NIA and CTN’s approach provides the only vehicle for the provision of service at least twelve nautical miles into the eastern Gulf by land-based licensees – the only possible service providers.¹⁷⁹ With respect to the western portion of the Gulf, this approach will promote the negotiation of market-based solutions between the holders of BTA authorizations

¹⁷³ See *Upper 700 MHz First R&O*, 15 FCC Rcd at 500 n.137; *Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission’s Rules*, 15 FCC Rcd 25495 (2000)[“700 MHz Errata”].

¹⁷⁴ See *700 MHz Errata*, 15 FCC Rcd at 25495.

¹⁷⁵ *27 MHz R&O*, 17 FCC Rcd at 9989-90.

¹⁷⁶ See *id.* at 9990-91.

¹⁷⁷ In other words, a land-based BTA authorization holder would be required to meet the signal strength limit at the boundary of the Gulf Service Area, while the holder of the Gulf Service Area authorization would be required to meet the signal strength limit at the boundary of the BTA.

¹⁷⁸ *Gulf CMRS Order* at 1210, 1214.

¹⁷⁹ Of course, the many licensees along the Gulf coast with PSAs that extend farther into the Gulf will be able to meet marketplace needs to the geographic limit of their PSAs.

and the holder of the Gulf Service Area authorization. Such an approach is similar to that adopted recently for cellular licensing in the Gulf (albeit modified to reflect significant differences in the current status of the two services – particularly the lack of any MDS/ITFS facilities in the Gulf Coastal Zone). As the Commission has found, “the best way to achieve reliable, ubiquitous service in the Western Gulf is to encourage further reliance on negotiation and market-based solutions to the fullest extent possible.”¹⁸⁰

Third, should the Commission permit operations in any new Gulf Service Area on any of the MBS channels, those operations should be subject to the MBS rules and applicants for new facilities in the Gulf Service Area should be required to utilize the hybrid propagation model proposed in the *Gulf NPRM* for calculating undesired signal strengths. Consistent with the approach suggested in the *Gulf NPRM*, land-based operations should not be required to use the hybrid model to account for potential interference caused by ducting or to cure actual interference caused by ducting.

Fourth, should the Commission permit operations in any new Gulf service area on non-MBS channels, (i) those operations should generally be subject to the LBS/UBS rules, and specifically required to comply with the signal strength limit at the boundary of the GSA’s of incumbent MDS/ITFS licensees and BTA authorization holders and should not be excused even if non-compliance is caused by ducting;¹⁸¹ and (ii) the licensee of any land-based operation should be required to comply with the signal strength limit at the boundary of the Gulf Service

¹⁸⁰ See *Gulf CMRS Order*, 17 FCC Rcd at 1218.

¹⁸¹ For purposes of the cochannel safe harbor rule, the distance to the border used in the formula $D^2/17$ should be the distance to the border of the BTA in issue.

Area,¹⁸² but should not be required to cure any non-compliance if it can demonstrate using the Epstein/Peterson propagation model that its operations are predicted to comply with the signal strength limit in the absence of ducting.

Finally, at this juncture WCA, NIA and CTN are not expressing any view as to the amount of spectrum that should be made available for operations in the Gulf Service Area. WCA, NIA and CTN certainly agree with the Commission's finding in the *Gulf NPRM* that the amount of spectrum to be licensed in the Gulf is a reflection of demand, emissions and bandwidth, alternative spectrum and the potential for interference.¹⁸³ WCA, NIA and CTN will address this question in detail in its reply comments, if any commenting party establishes that there is any unmet demand for services in the Gulf.

VI. THE FCC SHOULD ADOPT RULES AND POLICIES WITH RESPECT TO CONSTRUCTION DEADLINES, BUILD-OUT REQUIREMENTS AND TEMPORARY CESSATION OF OPERATIONS THAT ARE FUNDAMENTALLY FAIR TO LICENSEES, THAT REFLECT THE PHILOSOPHIES GOVERNING FLEXIBLE USE, AND THAT WILL PROMOTE THE MIGRATION OF SERVICE OFFERINGS TO THE HIGHEST AND BEST USE.

The *NPRM* solicits comment on a wide variety of issues associated with construction deadlines, build-out requirements and the temporary cessation of operations by licensees.¹⁸⁴ For the reasons set for below, WCA, NIA and CTN urge the Commission to adopt the following rules and policies:

- Consistent with the approach taken with respect to flexible use services governed by Section 27.14 of the Rules, all current construction deadlines and build-out requirements should be replaced by a single substantial service requirement;

¹⁸² For purposes of the cochannel safe harbor rule, the distance to the border used in the formula $D^2/17$ should be the distance to the border of the Gulf Service Area.

¹⁸³ See *Gulf NPRM* at 8450-51 (footnotes omitted).

¹⁸⁴ See *NPRM*, 18 FCC Rcd at 6798, 6799-6805.

- The performance safe harbors applicable to the other flexible use services regulated under Part 27 should apply to MDS and ITFS;
- An applicant should be entitled to a renewal expectancy upon demonstration that it has provided substantial service at some time during the term of its license;¹⁸⁵
- A given call sign should be entitled to renewal, even if the spectrum has not been utilized during the term of the license, so long as the call sign is part of a system that is providing substantial service and the spectrum at issue is either employed for a guardband or is being held in reserve by the system operator for expansion;
- All outstanding conditional licenses for which a request for additional time to construct is pending should be converted to licenses and subject to the substantial service test at renewal; and
- Consistent with other Part 27 flexible use services, the Commission should repeal the current MDS and ITFS rules subjecting licenses to cancellation if spectrum is not used for brief periods of time or if licensed facilities are temporarily dismantled.

As recognized by the *NPRM*, the significant changes to the MDS/ITFS regulatory regime that will result from this proceeding make it imperative that the Commission re-evaluate the myriad of performance requirements that it has imposed on MDS and ITFS licensees.¹⁸⁶ In doing so, it cannot be forgotten that for historic reasons that are largely obsolete (except with respect to certain ITFS interference protection issues), the Commission still regulates MDS and ITFS primarily via a broadcast-style model. This is perhaps nowhere more evident, and nowhere more inappropriate, than with respect to the various MDS and ITFS performance requirements. The existing model may have made sense when MDS and ITFS channels were used primarily for wireless cable and instructional video services, since system designs tended to be static –

¹⁸⁵ In many instances, MDS BTA authorizations have submitted certifications of compliance with the current build-out requirement pursuant to 47 C.F.R. § 21.930(c)(2) of the Commission's Rules. Because the current build-out requirement imposes a more stringent test than the substantial service safe harbor for point-to-multipoint services, a licensee that has complied with the current rule should not be required to submit a certification of substantial service with its next renewal application.

¹⁸⁶ See 47 C.F.R. § 21.43(a) (12 month MDS construction period); 47 C.F.R. § 73.3534(a) (18 month ITFS construction period).

facilities were applied for, constructed and then placed into operation without much need for future modification, guardbands, or the preservation of unused channels for system growth as subscribers are added.¹⁸⁷ Generally, however, the broadcast-style performance model is inappropriate for flexible use services where network designs are likely to be highly dynamic in response to marketplace demand, spectrum will have to be held by system operators to accommodate both guardband requirements and future growth, and offerings will be ever-changing as licensees take advantage of the flexible use model to explore innovative services.

Moreover, new performance standards for MDS/ITFS must reflect that MDS and ITFS are unlike any other services regulated by the agency. They are unique in that a system operator in any given market generally will accumulate (by secondary market acquisitions or leases) spectrum held under more than one call sign in order to provide a viable service; they are unique in that the Commission's rules, in Chairman Powell's words, have "been complex and stifling, and have shifted in their objectives",¹⁸⁸ and they are unique because significant rule changes now are necessary (after most of the spectrum has been licensed) to accommodate one (hopefully) final shift in Commission objectives (*i.e.*, to afford licensees the flexibility to meet ever-changing marketplace demands). These factors dictate that the performance requirements imposed on MDS and ITFS licensees differ somewhat from the requirements the Commission has imposed on other services, and that the Commission assure that the transition to these new rules and policies not have a penal effect on current licensees.

¹⁸⁷ See Initial Coalition Proposal at 8.

¹⁸⁸ See *NPRM*, 18 FCC Rcd at Separate Statement of Michael K. Powell, at 6858.

A. The Commission Should Adopt A Uniform Substantial Service Performance Requirement And Appropriate Safe Harbors For All MDS And ITFS Licensees

The *NPRM* solicits comment on the proposal by WCA, NIA and CTN for a uniform substantial service performance requirement on all MDS and ITFS licensees measured at the time of license renewal, coupled with the establishment of specific safe harbors (the same safe harbors used for WCS and other flexible use services) designed to provide licensees with certainty.¹⁸⁹ In the following section, WCA, NIA and CTN will reiterate the details of their proposal and the rationale therefore.

i) Adoption Of A “Substantial Service” Performance Standard Coupled With Safe Harbors Will Serve The Public Interest.

WCA, NIA and CTN continue to believe that since site-specific applications will not be required for the vast majority of MDS and ITFS spectrum, the current approach of imposing relatively short construction deadlines on a facility-by-facility basis will no longer make sense under the new regulatory regime.¹⁹⁰ Rather, the better approach is to impose a requirement that

¹⁸⁹ See *NPRM*, 18 FCC Rcd at 6800-01. The specific safe harbors WCA, NIA and CTN believe should be applied here were first established by the Commission in adopting rules for the 2.3 GHz WCS. Specifically, they provide that a licensee that chooses to offer fixed, point-to-point services, the construction of four permanent links per one million people in its licensed service area would constitute substantial service. For a licensee that chooses to offer mobile services, a demonstration of coverage to 20 percent of the population of its licensed service area would constitute substantial service. However, the Commission has made clear that the substantial service requirement can be met in other ways, and that it will review licensees’ showings on a case-by-case basis. See *Amendment of the Commission’s Rules to Establish Part 27, the Wireless Communications Service (“WCS”)*, 12 FCC Rcd 10785, 10843-44 (1997) (footnotes omitted) [*“WCS R&O”*].

¹⁹⁰ WCA, NIA and CTN recognize that, at least initially, most stations operating in the MBS are likely to be subject to site-by-site licensing. Nonetheless, the substantial service standard, with appropriate recognition of the unique nature of the educational services that typically will be offered over these stations and channels, still makes sense. Clearly, if those site-by-site licensed facilities are constructed and operated consistent with the Rules, the substantial service requirement would be satisfied, although it may also be satisfied in other ways. Also, over time many stations in the MBS may well transition to the LBS/UBS regulatory structure. See *supra* at Section II.A.i). Indeed, MBS licensing will be substantially like MDS BTA licensing is today – there will be a geographic area license holder, but it will be required to apply for site-specific authorizations. Although MDS BTA authorization holders today secure a separate license for each facility, those authorizations do not require construction of the facility by any particular date prior to the build-out date. However, if the Commission disagrees and retains short-term construction requirements for stations in the MBS, the Commission should adopt the proposal advanced in the Coalition Proposal for: (i) a uniform three year construction period for MDS and ITFS MBS stations; (ii)

the licensee demonstrate substantial service at the time of renewal, coupled with the well-established “safe harbors” the Commission applies in other flexible use services to provide licensees a measure of certainty.¹⁹¹ There is ample precedent for the Commission to transition to a substantial service performance/safe harbor approach to judging MDS and ITFS performance.¹⁹² Significantly, the Commission has adopted this very same requirement for all Part 27 flexible use licensees, whether they operate at 2.3 GHz, the Upper 700 MHz band, the Lower 700 MHz band, the paired 1392-1395 MHz and 1432-1435 MHz bands or the unpaired 1390-1392 MHz, 1670-1675 MHz and 2385-2390 MHz bands.¹⁹³

The Commission explained the rationale for this approach in applying this standard in the *27 MHz Proceeding*, where it stated that “[c]ompared to a construction standard, a substantial service requirement will provide licensees greater flexibility to determine how best to implement their business plans based on criteria demonstrating actual service to end users, rather than on a showing of whether a licensee passes a certain proportion of the relevant population.”¹⁹⁴ The substantial service standard allows the Commission to “consider such factors as whether the licensee is offering a specialized or technologically sophisticated service that does not require a

modification of the “substantial progress” standard; and (iii) conforming the MDS and the ITFS deadline for requests for additional time to construct. *See* Initial Coalition Proposal at 43 n.117.

¹⁹¹ *See* Initial Coalition Proposal at 43 (footnotes omitted).

¹⁹² For example, as discussed in detail in the Initial Coalition Proposal, this proposal is virtually indistinguishable from the action taken by the Commission several years ago with respect to the Interactive Video Data Service. *See* Initial Coalition Proposal at 47-48.

¹⁹³ *See* *Upper 700 MHz Band First R&O*, 15 FCC Rcd at 505; *Lower 700 MHz R&O*, 17 FCC Rcd at 1079; *27 MHz R&O*, 17 FCC Rcd at 10009-11. *See also* *Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission’s Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services*, 12 FCC Rcd 12545, 12659-61 (1997), *affirmed* *Melcher v. FCC*, 134 F.3d 1143, 1161-62 (D.C. Cir. 1998); *Amendments to Parts 1, 2, 87 and 101 of the Commission’s Rules To License Fixed Services at 24 GHz*, 15 FCC Rcd 16934, 16950-52 (2000) [“*24 GHz R&O*”]; *39 GHz Order*, 12 FCC Rcd at 18623-24.

¹⁹⁴ *27MHz R&O*, 17 FCC Rcd at 10010.

high level of coverage to be of benefit to customers, and whether the licensee's operations serve niche markets or focus on serving populations outside of areas served by other licensees.”¹⁹⁵

And, of particular applicability here (where incumbents with different sized GSAs will be dotted throughout the different size BTA authorizations issued for MDS and for ITFS channels), the

Commission has recognized that where:

new licensees in different geographic areas will not be similarly situated due to varying levels of incumbency, specific benchmarks for all new licensees would be inequitable. In contrast, the substantial service standard provides us with flexibility to consider the particular circumstances of each licensee and how the level of incumbency has had an impact on the licensee’s ability to build-out and commence service in its licensed area.¹⁹⁶

WCA, NIA and CTN cannot reiterate enough that a flexible standard, like the substantial service standard, that is evaluated on a case-by-case basis is essential to fairly judge the performance of individual MDS and ITFS stations that are used as part of a larger network. As noted above, unlike most other services MDS/ITFS system operators will be employing channels cobbled together from a variety of sources – their own BTA-authorized stations, incumbent MDS stations they own, and leased capacity of MDS and ITFS stations licensed to others. This is no surprise – the Commission anticipated when it auctioned MDS BTA authorizations, “market forces will lead to the accumulation of channels into one operating system.”¹⁹⁷ Thus, a standard that narrowly focuses merely on the population served via a particular station authorized pursuant to a particular license may not always tell the story as to whether the public is adequately served.

¹⁹⁵ *WCS R&O*, 12 FCC Rcd at 10844 (footnotes omitted).

¹⁹⁶ *Lower 700 MHz R&O*, 17 FCC Rcd at 1079.

¹⁹⁷ *MDS BTA Auction Order*, 10 FCC Rcd at 9607.

The Commission recognized this at least in part, when it adopted the initial build-out requirements for MDS BTA overlay authorizations. There, the Commission provided that when an incumbent station within a BTA and the BTA authorization are commonly owned, the service areas of the two authorizations are deemed to be combined and satisfaction of the build-out requirement judged based on the accumulated level of service within the consolidated area.¹⁹⁸ While a good start, more is needed now.

For example, if flexible use is to flourish in the 2.5 GHz band, the Commission must make clear that while in some cases the particular spectrum covered by a given license may not be used at the time of renewal, a renewal expectancy will nonetheless be granted. as discussed above in Section IV.B, spectrum may be devoted by the system operator to guardband – not “used” in the classic sense but guardbands will have to be a critical component of the system design if the Commission truly wants to facilitate the use of both TDD and FDD technologies in the 2.5 GHz band. If the Commission is serious about promoting flexible use, then it must afford

¹⁹⁸ When the Commission adopted the BTA licensing system, it was undisputed that the MDS was “a heavily encumbered service.” *MDS BTA Auction Order*, 10 FCC Rcd at 9604. Indeed, the Commission recognized at the time that in most markets few channels were available for the auction winner, that in the majority of the top markets no MDS channels remained available at all, and that the “fixed 35-mile protected service areas of MDS incumbents...occupy substantial portions of most BTAs.” *Id.* at 9613-14. Due to the extent of such encumbrances, the Commission concluded that “a number of BTA service areas may be so encumbered that the winning bidder for such a BTA may be unable to file [an] application proposing another MDS station within the BTA while meeting the Commission’s interference standards as to all previously authorized or proposed MDS and ITFS facilities.” *Id.* at 9656.

Nonetheless, the Commission anticipated that MDS BTA holders would “be able to accumulate a sufficient critical mass of channels to launch a system in a market...through the assignment or transfer of previously authorized channels.” *Id.* at 9607. Indeed, the Commission recognized that where it did not already own the incumbent MDS stations within the BTA, the BTA holder’s objective in acquiring “such a heavily encumbered BTA would likely be to purchase the previously authorized or proposed MDS stations within the BTA and to maintain full flexibility to make modifications.” *Id.* at 9656 Where the license for an incumbent station is acquired by the holder of the BTA authorization, the Commission has specifically provided that “the protected service area of the acquired station will extend to the BTA boundary or the existing 35-mile protected circular area (from the incumbent), whichever is larger.” *Id.* at 9613-14. Thus, certifications of build-out can be based on the consolidated service within this larger area.

licensees the flexibility to devote spectrum to the necessary guardbands without jeopardizing their authorizations. Given the value of spectrum, licensees can be expected to act rationally and minimize the amount of spectrum that is devoted to guardband. However, some guardbands are going to be inevitable, and the Commission does nothing to advance the use of the 2.5 GHz band for broadband if it seeks to penalize licensees that use spectrum for guardbands.

Moreover, at any point in time spectrum licensed under a particular call sign may not be employed by a system operator for transmissions – instead, it may be held by a system operator for future use as subscriber demands expand. This will be particularly true with respect to MDS and ITFS licenses that are due for renewal in the coming years. In other services, where operators utilize just their owned channel capacity this is not an issue – since some of their own spectrum is utilized, licensees are permitted to certify compliance with build-out requirements even if not all of their spectrum is utilized.

However, because broadband MDS/ITFS services will be cobbling together spectrum from a variety of sources, it is possible that all of the spectrum under a given call sign may be held in reserve at the time of renewal. Indeed, because initial deployment of second generation MDS/ITFS systems will be taking place around the time that many licenses will be expiring, it is highly likely that systems will be in nascent stages and using only a portion of the spectrum available to the operator. It is an unavoidable business reality that system operators must hold spectrum in reserve for future growth, and a Commission rule that effectively precludes such a practice will not serve the Commission's objective of promoting the deployment of advanced systems. If the Commission adopts rules in this proceeding under which it may repossess spectrum not actually being used to provide services in the short-term, then the Commission will

sound a death knell for system deployment – no rational system operator is going to devote resources to a business if the Commission is going to effectively preclude long-term growth.

Finally, the case-by-case analysis afforded by the substantial service test is particularly appropriate for a service like ITFS, where licensees will be providing a wide variety of educational and instructional services and mathematical metrics cannot possibly be developed to judge whether a given ITFS licensee is providing a public service. Without limiting the ability of any given ITFS licensee to demonstrate how the particulars of its educational and instructional services served the public, the Commission should make clear that any ITFS licensee is entitled to renewal (and therefore has met the substantial service standard) if it complied during the license term with the minimum educational use requirements specified by the Commission. with respect to its channels. Moreover, the Commission should re-confirm that the leasing of excess capacity by an ITFS licensee is in no manner a detriment to renewal.¹⁹⁹

ii) The Substantial Service Test Should Be Satisfied And A Renewal Expectancy Awarded If Substantial Service Was Provided At Some Time During The License Term.

If flexible use policies are to promote the evolution of spectrum to its highest and best use, those policies must perforce allow for licensees to try new service offerings and, upon discovering that the public demand is less than anticipated, try something else. A critical component of the Coalition Proposal is that the Commission not merely examine the service that is being provided at the time of renewal, but also consider whether substantial service was provided at any time during the license term.²⁰⁰ The Commission's flexible use policy goals

¹⁹⁹ See *Amendment of Parts 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Two-Way Transmissions*, 13 FCC Rcd 19112, 19170-71 (1998).

²⁰⁰ See Initial Coalition Proposal at 46 n.122.

inevitably will be compromised if renewal is based solely on a “snapshot” taken when the renewal application is filed. Licensees will be reluctant to migrate from one service to another when approaching renewal, regardless of marketplace demand, for fear that they will not be providing substantial service at renewal time. The approach advocated by WCA, NIA and CTN is more consistent with the Commission’s policy – it provides for renewal so long as the licensee can demonstrate that it provided substantial service at some point during the license term.

This concept is particularly applicable to MDS and ITFS renewal applications that will be before the Commission over the next few years. Adoption of the Coalition Proposal will allow the Commission to tailor its review to the peculiar circumstances that are confronting many MDS and ITFS licensees who face renewal over the next few years, *i.e.*, spectrum that they used extensively for video services or first generation broadband service during the license term may not be used extensively at the time of renewal because renewal happens to occur in the midst of a transition to the next generation of service offerings. Many licensees currently have a strong interest in discontinuing the provision of wireless cable services or first generation broadband service to migrate to second generation broadband services once the Commission revises its rules. Such action makes sense and should be encouraged – there is no public interest benefit to preserving non-viable service offerings merely because renewal approaches. Yet, that is exactly what will happen if the Commission insists on taking a “snapshot” of usage at renewal and judging a licensee’s performance based solely on the extent it is providing service on a given date. Indeed, a “snapshot” approach will have the unfortunate effect of delaying the deployment of the second generation broadband services – licensees will refrain from ceasing obsolete services and starting the transition until after their renewal applications are granted.

A “snapshot” approach to judging performance also would be inconsistent with any of the approaches to transitioning to the new bandplan suggested in the *NPRM*. Appendix B to the Coalition Proposal advances a regime under which the transitional process may force the discontinuance of service in one or more markets in order to promote broadband deployment. The alternatives advanced by the Commission also may require current operations to cease as of a date certain, which may come at or about a given licensee’s renewal date.²⁰¹ Certainly, a licensee who has been forced to cease operations by virtue of these transition policies should not be penalized at renewal or otherwise have its license jeopardized.²⁰² The simple fact is that the evolution of MDS and ITFS to second generation broadband will not be easy, and it will not occur overnight. To again quote Chairman Powell, “[r]evolutions and infrastructure build-outs take time.”²⁰³ The Commission can facilitate the process by making clear that it will not penalize licensees that had been providing service but happen not to be doing so at the time of renewal or any other time because they are evolving to new types of service offerings. At a minimum, the Commission should make clear that during the next round of MDS/ITFS renewals, a licensee

²⁰¹ See *NPRM*, 18 FCC Rcd at 6763-65.

²⁰² While WCA, NIA and CTN believe that some reduction of service is a necessary price to pay for transitioning the 2.5 GHz to a bandplan and rules capable of supporting widespread deployment of advanced services, the Commission cannot jeopardize the licenses of those who are transitioned and therefore must cease current operations. If the Commission chooses to apply Section 21.303 or some similar rule regarding the discontinuance, reduction or impairment of existing service (and WCA, NIA and CTN submit that none is necessary other than Section 27.66), the Commission should clarify the application of that rule to the MDS/ITFS transition process. Specifically, the Coalition Proposal advocates that the Commission issue a blanket waiver of that rule for all MDS and ITFS licensees, require the filing of a notice when service is commenced by a transitioned licensee operating under the new bandplan and thereafter apply the rule to that licensee in accordance with its terms. In this manner, MDS and ITFS licensees will be able to smooth the transition process without fear that licenses will be jeopardized as stations cease operations to facilitate the transition. In addition, the Coalition Proposal calls for a clarification that when a licensed MDS or ITFS channel is used as a guardband rather than for transmissions, no filings are required to safeguard the license for the channel being utilized as a guardband. In such a case, the provisions of the rules regarding the cancellation or forfeiture of the license should be inapplicable for so long as the channel is used as a guardband.

²⁰³ Powell Summit Remarks, *supra*.

that had provided substantial service at any time during its prior license term will be entitled to renewal.

B. Valid Conditional Licenses Should Be Converted To Licenses Without Construction Deadlines But Subject To The Substantial Service Standard At Renewal Requirement.

In the *NPRM*, the Commission solicits public comment as to how it should handle current requests for additional time to construct facilities authorized under conditional licenses.²⁰⁴ WCA, NIA and CTN submit that so long as a conditional license is valid (*i.e.*, the construction deadline had not passed by the release of the *NPRM* or, if it has passed, a request for additional time to construct is pending), the Commission should convert that conditional license into a license that will remain valid until the specified renewal date – at which time the licensee will be required to demonstrate substantial service.

WCA, NIA and CTN believe this approach has two benefits. First, it is relatively simple to implement – the staff will not be required to process the numerous pending requests for additional time to construct, many of which have been pending for years. Thus, licensees will know where they stand immediately, and will not have to delay deployment plans until the Commission grants their pending application. Second, and more importantly, such an approach is fundamentally fair to MDS and ITFS licensees who have labored under a cloud of regulatory uncertainty for the better part of the last decade. Admittedly, this approach may result in a small number of licensees securing additional time to construct facilities who, judged individually, might not have the strongest claims to additional time. However, it will absolutely assure that no conditional licensee that has acted in good faith but been hampered by rules that even Chairman

²⁰⁴ See *NPRM*, 18 FCC Rcd at 6805.

Powell calls “complex and stifling” suffers any further.²⁰⁵ Given that the Wireless Telecommunications Bureau may no longer be applying the more liberal extension policies that the Mass Media Bureau had employed for years (a retroactive policy shift that has been and will continue to be challenged by licensees whose extension requests have been denied, particularly where such denials have resulted in the loss of licenses), it is appropriate for the Commission to ensure that at least this one round of extension requests receives every benefit of the doubt.

VII. THE COMMISSION SHOULD AUCTION THE ITFS “WHITE SPACE” IN THE MANNER PROPOSED BY WCA, NIA AND CTN.

One of the issues raised by the *NPRM* is the future of the ITFS “white space” – the geographic area/ITFS channel combinations that are not currently licensed. As the Commission considers the future of the ITFS white space, it should keep in mind that the currently available spectrum amounts to “table scraps” – it is what is left over after more than thirty years of ITFS licensing. In virtually every market of any size within the United States, all of the ITFS channels have been licensed, and where that is not the case, rarely is more than a single channel group available. Thus, WCA, NIA and CTN are concerned that the “tail” is about to “wag the dog” – the *NPRM* is considering a variety of novel regulatory schemes with respect to the ITFS white space which holds limited interest. As discussed below, the suggested novelties are not necessarily benign and could backfire by delaying widespread deployment of wireless broadband services.

A. The Commons Model Is Inappropriate For ITFS White Space

At the outset, WCA, NIA and CTN believe that there is no merit to the proposal that the Commission authorize unlicensed use of the ITFS white space rather than auction it for the

²⁰⁵ See *NPRM*, 18 FCC Rcd at Separate Statement of Chairman Powell, at 6858.

provision of licensed services. From a theoretical perspective, the Spectrum Policy Task Force has laid out the factors that militate in favor of a commons model – “scarcity is low and transaction costs associated with market mechanisms are high.”²⁰⁶ In contrast, the Task Force calls for the use of an exclusive use model under the following circumstances:

The exclusive use model should be applied to most spectrum, particularly in bands where scarcity is relatively high and transaction costs associated with market-based negotiation of access rights are relatively low. The exclusive use model is appropriate because where spectrum is subject to competing demands, and therefore more likely to have a high market value, this approach creates the strongest incentives for parties to put spectrum to its highest valued use. In addition, where rights and responsibilities are clearly defined and effectively enforced, the characteristics of this model – *e.g.*, exclusivity, flexibility, and transferability – generally provide a clear framework for market-based assignment and negotiation of access rights among spectrum users, thereby limiting transaction costs.

These variables suggest that in the lower portion of the radio spectrum, particularly bands below 5 GHz, the Commission should focus primarily, though not exclusively, on using the exclusive use model. The propagation characteristics in this portion of the spectrum (which can support a wide variety of high- and low-power, fixed and mobile uses), combined with the high level of incumbent use (including government as well as non-government uses), result in a large number of competing demands for a relatively small amount of available spectrum. These factors tend to weigh in favor of an exclusive use approach with flexible rules because it provides a mechanism for spectrum users to choose among the full range of technically feasible spectrum use options based on market forces. Moreover, the typical transaction costs associated with negotiation of access rights tend to be relatively low in relation to the value of this spectrum.²⁰⁷

There can be little doubt that the facts surrounding the ITFS white space better fit within the criteria for use of the exclusive use model, as scarcity at 2.5 GHz is high and the transaction costs of access to that spectrum are relatively low in relation to the value of the band. Given the propagation characteristics in the 2.5 GHz band, the proposed use of the band for a wide variety

²⁰⁶ *SPTF Report* at 39.

²⁰⁷ *SPTF Report* at 38.

of fixed, portable and mobile services, the high degree of incumbency, and the relatively low transaction costs in relation to the value of the spectrum, application of the exclusive rights model would best serve the public interest.

Moreover, as a practical matter the commons model appears unworkable for the ITFS white space for a variety of reasons. First, as discussed above in Section IV.E, the technology that the *NPRM* implies would allow such unlicensed use in the white space, but not in licensed areas – GPS-based location technology that would allow unlicensed devices to avoid operating in licenses areas – is far from proven. Before the Commission authorizes unlicensed use that would be cochannel and/or adjacent channel to licensed operations, it must be certain that the technologies it is relying on to provide interference protection actually can provide that protection.

Second, given the limited population that would be able to access unlicensed ITFS white space (since most of the ITFS spectrum is licensed where most of the population of the country resides), WCA, NIA and CTN question whether anyone would seriously be interested in developing the technologies necessary to provide unlicensed services in the ITFS white space. Particularly given the substantial amount of spectrum that is coming available for unlicensed use in other bands,²⁰⁸ it is difficult to conceive that equipment manufacturers would devote their resources to developing technology that could only be used in the relatively remote areas where ITFS white space exists. By contrast, it is clear that there is a substantial demand for the

²⁰⁸ *Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems*, 18 FCC Rcd 2223 (2003)[“*AWS Third R&O*”]; *Revision of Parts 2 and 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band*, 18 FCC Rcd 11581 (2003); *Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, 17 FCC Rcd 25632 (2002).

extension of existing ITFS services on a licensed basis into areas immediately outside existing ITFS GSAs.

Third, and most importantly, unlicensed use of the 2.5 GHz band spectrum cannot be squared with the technical rules proposed by WCA, NIA and CTN to maximize flexibility, minimize interference and maximize spectral efficiency. Achievement of these objectives will require a degree of coordination among system operators, including the exchange of critical network design information and the making of design modifications where required.²⁰⁹ If the white space becomes a commons model free-for-all where neither the Commission nor licensees operating in the remainder of the 2.5 GHz band know who is doing what with the white space spectrum, this regulatory model will have to be gutted in favor of one that affords licensees far less flexibility, subjects systems to harmful interference, and/or is far less spectrally efficient. Such a result will not only undermine the use of the 2.5 GHz band for commercial services, but will jeopardize its use for continued educational and instructional services. That is simply too high a price to test novel regulatory schemes involving unlicensed services.

B. The Commission Should Conduct Its White Space Auction On A Channel Group-By-Channel Group Basis.

The *NPRM* seeks comment on the appropriate size of the spectrum block or blocks to be used in auctioning new ITFS geographic area licenses, and presents three alternatives: (i) use of a single block comprising all unencumbered spectrum; (ii) licensing each channel separately; or

²⁰⁹ For example, the safe harbor provisions designed to reduce cochannel interference when non-synchronized systems operate in the vicinity of a common GSA border are predicated on the licensees knowing the identity of each other and the technical characteristics of each others' systems. Similarly, the operational adjacent channel spectral mask designed to mitigate interference when adjacent channel licensees operate non-synchronized systems is predicated on the licensees knowing the identity of each other and the technical characteristics of each others' systems. Neither of these approaches to interference protection is compatible with unlicensed operations. Moreover, as discussed above, these provisions are all intended to encourage voluntary coordination, a process that is particularly difficult to implement when anyone can provide service on an unlicensed basis.

(iii) licensing using the current four-channel channel groups.²¹⁰ The Coalition Proposal urged the Commission to use the latter of these options, and remains convinced that this approach will best advance the Commission's objectives.

In advocating the use of channel groups, WCA, NIA and CTN stated that:

By holding auctions on a group-by-group basis, the Commission will best serve the needs of incumbent ITFS licensees – the most likely participants. Particularly as portable, nomadic and mobile commercial and educational applications develop, wide-area coverage will be required, which means that many incumbent licensees are going to be interested in expanding use of their current channels beyond the borders of their current GSA. Conducting auctions on a group-by-group basis will allow incumbents to secure the rights to their current channels in a larger area, without having to purchase spectrum they are not interested in utilizing.²¹¹

Given that most of the ITFS spectrum is today licensed in four-channel groups, WCA, NIA and CTN suspect that there will be very little interest in acquiring some, but not all of the channels in a given group. The additional flexibility of a channel-by-channel auction must be weighed against the increased complexity of an auction that puts 20 small spectrum blocks up for sale, rather than just five channel groups. To the extent that a few bidders may be seeking less spectrum, they will be free to enter into joint bidding agreements with other like-minded bidders before the auction, or disaggregate their spectrum after the auction.

Nor does WCA, NIA and CTN believe that there will be substantial demand for a single block of all unencumbered spectrum. While that approach was taken with respect to the MDS BTA auction, most (if not all) of the incumbent MDS channels in each market were already licensed to a single entity, and thus there was a demand for a single BTA authorization. Here, however, it is extremely rare that all of the ITFS spectrum in a given market is licensed to a

²¹⁰ See *NPRM*, 18 FCC Rcd at 6754.

²¹¹ Initial Coalition Proposal at 42.

single entity. Again, most interest in an auction for ITFS white space will come from those seeking to expand their existing services, and existing services are defined on a group-by-group basis.

C. The Commission Should Utilize Basic Trading Areas For The Auctioning Of The ITFS White Space To Provide Consistency With MDS Authorizations.

The *NPRM* also solicits comment on the appropriate geographic area to be utilized for an auction of ITFS white space, suggesting a wide variety of possibilities ranging from a single nationwide area to 734 Metropolitan Statistical Areas plus Rural Service Areas.²¹²

WCA, NIA and CTN do not support the Commission's proposal to auction a single nationwide license for the ITFS white space.²¹³ The highly-encumbered state of the ITFS spectrum makes it impossible for the auction winner to deploy a nationwide service (or anything even remotely resembling nationwide service). Moreover, a nationwide license would be of little value to the ITFS community, which generally operates on a local or regional basis, or to even the large commercial MDS/ITFS operators (which largely have consolidated their holdings into regional businesses and do not operate with nationwide MDS/ITFS footprints).

The Coalition Proposal suggested that the Commission utilize BTAs to provide consistency with the MDS licensing regime.²¹⁴ The *NPRM* acknowledges that interest, but also seeks comment on whether there is any demand for large regional licenses along the lines of Economic Area Groupings, Regional Economic Areas or Major Economic Areas.²¹⁵ WCA, NIA and CTN do not believe that an auction based on such large service areas would be appropriate.

²¹² See *NPRM*, 18 FCC Rcd at 6750-54.

²¹³ See *id.* at 6753.

²¹⁴ See Initial Coalition Proposal at 42.

²¹⁵ See *NPRM*, 18 FCC Rcd at 6753.

Certainly, those areas are far larger than the areas in which most ITFS licensees provide service. While admittedly some commercial licensees may desire to bid for such large service areas, that desire can be accommodated by the purchase of contiguous BTAs, thereby securing large regional operating authority.²¹⁶

The *NPRM* raises the issue of the copyright that Rand McNally Corp. (“Rand McNally”) has in the BTA listings.²¹⁷ While WCA, NIA and CTN appreciate that the licensing agreement entered into between Rand McNally and WCA in connection with the MDS BTA auction would not extend to an auction of ITFS white space, a similar licensing agreement would not be necessary to allow the Commission to conduct an auction using BTAs as geographic service areas.²¹⁸ Rand McNally’s copyright interest only prohibits unauthorized persons from copying, making derivative works from, distributing, or publicly displaying Rand McNally’s copyrighted material.²¹⁹ While the Commission perhaps could not reproduce Rand McNally’s copyrighted maps or the lists of counties associated with each BTA (there is substantial doubt as to whether a license would be required for that activity), the Commission clearly can, without any liability,

²¹⁶ Accumulation of contiguous service areas could be promoted through the use of combinatorial bidding. However, WCA, NIA and CTN do not support the use of the ITFS white space auction for the Commission to test combinatorial bidding unless the Commission is absolutely certain that its procedures and software can accommodate combinatorial bidding on an auction with as many units as the ITFS white space auction.

²¹⁷ See *NPRM*, 18 FCC Rcd at 6753-54.

²¹⁸ Although the Commission has previously acknowledged Rand McNally’s claims of copyright in BTAs, to the knowledge of WCA, NIA and CTN, no court has ever ruled on the validity of Rand McNally’s assertion of copyright in the listing of counties or maps of those counties in a given BTA, and we do not concede it here. Rand McNally’s claims are weak at best, because copyright only extends to “original works of authorship” and not to merely factual data compilations, no matter how much work goes into compiling them. See *Feist Publications, Inc. v. Rural Telephone Service Co.*, 499 U.S. 340 (1991) (holding that white pages telephone books are not covered by copyright).

²¹⁹ Copyright law provides copyright owners with only a limited grant of exclusive rights to do specific things with respect to the copyrighted work: (1) reproduce it, (2) prepare derivative works based upon it, (3) distribute copies of it, and (4) perform or display it publicly. See 17 U.S.C. § 106.

reference the BTA designations in establishing the geographic areas to be licensed and refer interested persons to the Rand McNally Commercial Atlas for a list of the counties comprising each BTA or the BTA map. In doing so, the Commission would not be taking any action that infringed on Rand McNally's copyrights.

In addition, designating BTAs as the geographic area for ITFS white space licenses would not place a substantial copyright burden on licensees. First, providing service in a BTA, in itself, would not involve any copyrights of Rand McNally. Rand McNally's copyright would only be implicated if a licensee copies, creates a derivative work from, distributes or publicly displays any copyrighted material of Rand McNally, such as for marketing purposes or otherwise. Even then, the "fair use" doctrine would permit at least some uses of Rand McNally's BTA listings or maps.²²⁰ In the event that a licensee desires to make uses of Rand McNally's material that would require a copyright license, such a license would have to be obtained by the licensee directly from Rand McNally.

D. Pending Mutually-Exclusive ITFS Applications That Have Achieved Cut-Off Status Under The Current Rules Should Be Auctioned Without Affording Additional Applicants An Opportunity To Participate.

The *NPRM* raises the question of how the Commission should treat long-pending mutually exclusive ITFS applications, and tentatively concludes that they should be dismissed "without prejudice."²²¹ It is unclear why the Commission has reached that tentative conclusion.

²²⁰ 17 U.S.C. § 107 provides that a "fair use" of a copyrighted work is not an infringement. Whether a particular use is "fair" depends on an analysis of all relevant facts, including (1) the purpose and character of the use, (2) the nature of the copyrighted work, (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole and (4) the effect of the use upon the potential market for the copyrighted work. *Id.*

²²¹ See *NPRM*, 18 FCC Rcd at 6813-14.

The Commission's proposal here is both troubling and puzzling. The Commission seems to be concerned that there might be some difficulty in addressing these applications in the event it concludes to auction the ITFS white space spectrum. There is no reason why there should be undue difficulty in processing the pending applications. Moreover, the only reason these applications are still pending at all, after nearly 8 years, is the Commission's failure to prosecute them in a timely manner, despite the fact that the Commission has previously adopted auction procedures and has concluded that they should be processed without acceptance of any additional competing applications. The affected applicants invested substantial effort and expense to file the applications, and took advantage of a rare opportunity to do so. Once the window closed, under the rules, they were cut off from competing applications. Substantial equities therefore favor the proposed treatment, as set out in the Coalition Proposal:

Therefore, in order to resolve the mutually-exclusive ITFS applications pending before the Commission (most for more than seven years), WCA, NIA and CTN urge the Commission to proceed with auctions between the current applicants.²²² Before doing so, however, the Commission should again open a "white knight" settlement period during which it will accept universal settlements of mutually exclusive ITFS applications now on file. As it has done in the past, the Commission should accept settlement regardless of whether they:

comply with the requirements of Section 73.3525(a)(3) precluding payments to dismissing applicants for new facilities in excess of their legitimate and prudent expenses. In addition, parties need not provide the information required in Section 73.3525(a)(5). Parties may also enter into settlement agreements, which will result in the award of the authorization to a non-applicant third party, including the pertinent MDS BTA authorization holder. We emphasize, however, that any "white knight" must demonstrate that it meets all eligibility criteria for the service, as set forth in 47 C.F.R. §§

²²² See *Implementation of Section 309(j) of the Communications Act – Competitive Bidding for Commercial Broadcast and Instructional Television Fixed Service Licenses*, 13 FCC Rcd 15920, 16002 (1998) [*"Broadcast Auction R&O"*]. "[W]e believe it would not serve the public interest to accept additional competing ITFS applications despite our authority to do so under Section 309(j)(1), and we will therefore limit the eligible bidders in any auction of the pending ITFS applications to those with applications already on file." See *id.*

74.932 for ITFS users or 74.990 for wireless cable users. Pursuant to Section 74.990(a), only the BTA holder is qualified to submit any new application for commercial use of available ITFS frequencies within its BTA. Parties are also reminded that they are permitted to amend pending applications in order to resolve mutually exclusive applications, so long as no additional interference results.²²³

E. The Commission Must Structure The ITFS White Space Auction In A Manner That Reflects The Unique Nature of ITFS.

In the context of auctions in the event of mutually exclusive applications for unassigned ITFS spectrum, the *NPRM* at Paragraphs 233 through 240 seeks comment on a variety of issues, including the structure of auctions and the use of bidding credits for certain designated entities. In response, WCA, NIA and CTN urge the Commission to implement auctions for ITFS spectrum in a manner that acknowledges the unique circumstances applicable to ITFS applicants and applications.

As an initial matter, Section 309(j) of the Act authorizes the Commission to use competitive bidding only where there are mutually exclusive applications that have been accepted by the Commission for any initial license or construction permit. Given that applications for such initial ITFS licenses will be for “white space” facilities outside the current protected service areas of existing stations (covering in most instances very rural areas) and given that eligibility to submit such applications is currently limited to, and should continue to be limited to, nonprofit or governmental educational entities,²²⁴ in many if not most instances there will not be competing applications for particular licenses. In addition, given potential

²²³ Initial Coalition Proposal at 41-42 (citation to “ITFS Mutually Exclusive Applications – Settlement Period,” *Public Notice*, 15 FCC Rcd 591 (2000)).

²²⁴ See 47 C.F.R. § 74.932(a).

restrictions on the ability of many eligible entities to participate in auctions at all,²²⁵ and the very uncertain “value” that nonprofit and governmental educational entities will be willing and able to place on white space licenses, the Commission should confirm that, consistent with existing policies and rules, if there is only one applicant for a particular license, the auction will not take place and the Commission will proceed to review that applicant’s application without regard to auction procedures (such as payment of minimum reserve amounts).²²⁶

WCA, NIA and CTN also believe that traditional auction concepts supporting the bids of so-called designated entities have no proper application in this context, and that the *NPRM*’s entire discussion of the issue is fundamentally flawed. The language in Section 309(j)(4)(D) quoted by the *NPRM* shows its utter inapplicability to ITFS: “Congress mandated that the Commission ‘ensure that small businesses, rural telephone companies, and businesses owned by members of minority groups and women are given the opportunity to participate....’”²²⁷ ITFS eligible entities consisting of educational institutions, governmental agencies and non-profit educational groups are *not* “businesses” in any commonly understood use of that term.²²⁸ Nor are they *owned* by any particular individuals or groups, as opposed to the public at large, as they do not issue stock or other indicia of ownership.

²²⁵ It is doubtful whether many public educational entities would be able to participate in an auction for frequencies, either because of legal or financial restrictions. Even if they can compete in an auction, the irony of the competitive bidding process in this context is that funds that otherwise could be put to use to provide education will be used to purchase the frequencies.

²²⁶ See *Broadcast Auction R&O*, 13 FCC Rcd at 16003-04.

²²⁷ 47 U.S.C. § 309(j)(4)(D).

²²⁸ The closest definition of “business” according to Webster’s New Collegiate Dictionary is “a commercial or sometimes industrial enterprise.” Clearly, this term does not fit educational institutions and entities.

Furthermore, with respect to bidding credits used in other auction contexts to favor small businesses, and those proposed here by the Commission, WCA, NIA and CTN can think of no particular correlation between the size of an ITFS eligible entity based on annual revenues or other similar financial factors and the likelihood of successful construction and operation of applied-for ITFS stations.²²⁹ If anything, the entity most likely to be successful in applying for, constructing and operating white space ITFS stations (which will generally function to extend service into outlying areas surrounding a given metropolitan area) is the licensee that currently holds a license for the same channels in a nearby area. The size or other “business” characteristics of that entity simply is not relevant.

F. Two-Sided Auctions Are Inappropriate For The 2.5 GHz Band Given The Substantial Consolidation And Rationalization That Has Already Occurred Though Secondary Market Mechanisms And The Significant Potential For Delays In The Deployment Of Broadband Facilities.

The *NPRM* has solicited public comment as to whether the Commission can or should conduct a two-sided “restructuring auction” under which participants would be able to purchase ITFS white space, incumbent ITFS authorizations and perhaps even MDS authorizations.²³⁰ WCA, NIA and CTN certainly appreciate that there may be times when two-sided auctions along the lines of those contemplated by the Office of Plans and Policy Working Paper No. 38 serve

²²⁹ Even defining the “size” of an ITFS entity could be troublesome. For a governmental entity, is it based on the entire budget of the state, county or municipality which created the entity? Is it the budget of the agency or other entity involved? If an educational institution or system, is it the budget of the entire institution, or only the campus that operates the station? If that agency or entity is engaged in other activities unrelated to operation of the ITFS station, such as the production of programming and other educational material, operation of an accredited educational institution itself, operation of public TV and radio stations, conducting other governmental functions, and the like, is the budget of those activities included? Even if an appropriate scope of financial activity for ITFS-eligible entities can be defined, how does one draw the line between what is large and what is small?

²³⁰ See *NPRM*, 18 FCC Rcd at 6820-22.

the public interest.²³¹ However, attempting to use a two-sided auction to restructure the 2.5 GHz band is likely to yield disappointing results given the high degree of consolidation and spectrum rationalization that has already occurred in the MDS/ITFS industry through secondary markets. Moreover, two-sided auctions will cause a substantial delay in the very deployment of advanced services the *NPRM* seeks to promote.

At the outset, it should be noted that if the Commission does not modify its eligibility requirements for ITFS licenses, a two-sided auction will serve no purpose. Under such a scenario, bidders will almost always be existing ITFS licensees seeking to expand service into areas that adjoin their current GSAs. There will likely be few if any situations where an ITFS eligible will seek to acquire an incumbent ITFS license and the surrounding white space at auction or, at least be willing or able to pay substantial sums at auction to do so.²³² Moreover, under any scenario, two-sided auctions are unlikely to yield the public benefits envisioned by the Commission.

i) A Two-Sided Auction Is Not Likely To Have A Dramatic Impact On The Consolidation And Rationalization Of Spectrum In The 2.5 GHz Band.

The fundamental shortcoming in the *NPRM*'s proposal is that it ignores the substantial consolidation that has occurred in the MDS/ITFS industry over the past twenty years through the secondary market. Through the purchase of MDS authorizations and the leasing of MDS capacity and excess ITFS capacity, a relatively small number of commercial broadband system operators have acquired rights to most of the spectrum in the 2.5 GHz band in areas that

²³¹ Kwerel and Williams, "A Proposal for a Rapid Transition to Market Allocation of Spectrum," *OPP Working Paper Series*, No. 38 (Nov. 2002)[*"OPP Working Paper No. 38"*].

²³² Should any such situations arise, the ITFS eligible will be able to acquire both the incumbent license through private negotiations and the white space at auction.

collectively cover most of the population of the country. For example, there are various large regions of the country where Sprint has secured access to most of the spectrum in the 2.5 GHz band, and the same can be said for large spectrum consolidators like BellSouth, SBC (which is acquiring the MDS/ITFS assets of Nucentrix) and Nextel (which is securing the holdings of WorldCom), as well as more regional system operators like WinBeam, Evertex and Ntelos.

As such, WCA, NIA and CTN disagree with the Commission's implicit presumption that licensing is so fragmented the transaction costs associated with an auction will be less than those associated with negotiation of private contracts. From experience in the MDS BTA and other auctions, WCA's members are all too familiar with the substantial expenditure of time, energy and money required to participate in a band restructuring auction of the magnitude envisioned by the Commission – an auction that is likely to take many months to complete. ITFS licensees do not have resources to participate actively, even if they are otherwise able to do so. The costs of participation are not trivial, and likely will exceed whatever transaction costs licensees and system operators are likely to incur to effectuate future private market transactions. The Commission should not impose the burden of auction participation in the absence of a record clearly demonstrating that a Commission-conducted auction will yield better results than reliance on the marketplace.

Such a record is absent here. Because of the secondary market activities that have already occurred, much of the consolidation and rationalization of spectrum positions that could be accomplished by a restructuring auction has already been accomplished. And, given the substantial work that has already occurred, any desired additional consolidation or rationalization

can occur more efficiently and effectively through private negotiations than through an auction mechanism.

The secondary market leasing activity that has occurred over the past two decades is particularly relevant to the contemplated use of a restructuring auction for the 2.5 GHz band. Although OPP Working Paper No. 38 concedes that any auction for the 2.5 GHz band will require “special provisions as necessary to take into account existing leasing arrangements between ITFS and MMDS licensees,” the *NPRM* does not propose any such provisions.²³³ However, the fact that most ITFS and many MDS licensees have leased capacity cannot be ignored. Indeed, existing lease agreements present a host of problems that are not addressed in the *NPRM* and, as a practical matter, preclude the Commission from effectively utilizing two-sided auctions in the 2.5 GHz band.

The Commission cannot as a matter of law and should not as a matter of policy interfere with existing leases of MDS and ITFS capacity. If the Commission truly is interested in developing a viable secondary market for spectrum, it should not in this proceeding take any action that suggests licensees or lessees can escape from their spectrum leases through a Commission-conducted two-sided auction. To do so would have wide-ranging implications not only in this proceeding, but would cast a pall over the Commission’s efforts more generally to promote secondary market lease transactions as a vehicle for improving utilization of spectrum. Thus, at a bare minimum, any two-sided auction must be accompanied by a clear and unambiguous declaration by the Commission that where spectrum is encumbered by a spectrum

²³³ OPP Working Paper No. 38 at 34-35.

lease, any license assignment must accord with lease provisions and any purchaser of that spectrum at a two-sided auction takes it subject to the existing lease.

The efficacy of a two-sided auction involving leased spectrum is suspect. Existing leases include a variety of provisions, all approved by the Commission, which will impact the ability of licensees to include leased spectrum in any auction. For example, many leases include provisions giving the lessee a right of first refusal to purchase the license if it is to be sold, provisions that would appear to prevent a licensee from contributing its spectrum to an auction.²³⁴ Others provide the lessee the right to approve any proposed assignee of the underlying authorization. These are just a few examples, but they amply illustrate the point that absent the consent of the lessee, a licensee may be unable to contribute its spectrum to an auction without breaching its spectrum lease.

Potential bidders, meanwhile, are unlikely to be enthused about bidding for spectrum that they can only secure subject to a long-term lease. With ITFS leases extending as long as fifteen years and MDS leases running even longer, a two-sided auction is hardly going to provide some industry newcomer with access to substantial quantities of immediately usable spectrum.

Of course, the Commission could consider expanding its two-sided auction into a three-sided auction, allowing lessees to contribute their leases to the auction so that potential bidders

²³⁴ WCA, NIA and CTN appreciate that the Commission may utilize a construct under which the existing license is returned by the licensee and a new initial license issued to the auction winner in order to comply with Section 309(j)(1). See *NPRM*, 18 FCC Rcd at 6821-22. Even assuming that in a suit by a lessee against a lessor a court would give effect to the Commission's construct, such an approach brings into play provisions that are almost universal banning licensees from turning their authorization in to the Commission for cancellation without affording the lessee an opportunity to acquire them first.

could acquire both the incumbent license and any underlying capacity lease.²³⁵ However, WCA, NIA and CTN doubt that the major spectrum consolidators will view contributing their licenses and their leases into a three-sided auction as a particularly effective way to accomplish any additional consolidation or rationalization of spectrum. Rather, they will view private market transactions as a far more effective, less costly vehicle for pursuing their interests. And, without those major spectrum consolidators' participation, a three-sided auction will fail.

Leaving that aside for purposes of argument, if a three-sided restructuring auction for the 2.5 GHz band is to be held, package bidding would certainly have to play a significant role. Absent package bidding "bidders face the 'exposure' risk of getting stuck with only part of a desired aggregation and paying more than it is worth without the other parts."²³⁶ Thus, for example, package bidding would allow a bidder to place a single bid for both an incumbent license and the BTA overlay, or to place a single bid for a given authorization and the underlying lease of that authorization. Where package bidding is used, the Commission must establish a mechanism for allocating the winning bid among the multiple component elements. As discussed in OPP Working Paper No. 38, there are a variety of mechanisms the Commission could employ to split the proceeds of a package bid where the components are Commission licenses held by two or more licensees.²³⁷ None, however, factor in that one of the licenses sought as part of a package bid may be subject to a lease, while others may not be similarly

²³⁵ This presents its own set of problems, as many current leases either prevent a lessee from assigning its rights without the consent of the licensee or require a pre-assignment process that cannot be squared with the assignment of lease rights through a three-sided auction.

²³⁶ OPP Working Paper No. 38 at 14.

²³⁷ See OPP Working Paper No. 38 at 22. WCA, NIA and CTN express no view as to whether it would suffice to allocate the winning bid on a simplistic MHz/pop basis, or whether the alternative payment provisions identified in OPP Working Paper No. 38 should be employed.

encumbered (much less factor in the various lease terms that go to the value of the underlying license).

Moreover, it is difficult to imagine any formula that the Commission could utilize to allocate a package bid between a license and a capacity lease. Leases in the MDS/ITFS industry contain a wide range of terms involving amount of leased capacity, permissible uses of leased capacity, price, lease duration, rights of first refusal upon sale or lease of the spectrum, non-competition restrictions and other factors. Each of these factors goes to the value of the lease relative to the value of the underlying license, and no “one size fits all” formula exists by which the Commission can allocate a single package bid among the holders of the component rights. In the absence of an approach that results in fair divisions, however, the Commission can hardly expect licensees and lessees to flock to a three-sided auction.

In short, because of the secondary market consolidation and rationalization that has already occurred within the MDS/ITFS industry, a restructuring auction is unlikely to yield material changes in spectrum holdings.²³⁸

ii) Any Attempt To Utilize A Restructuring Auction Is Likely To Delay The Deployment Of Broadband Services In The 2.5 GHz Band.

WCA, NIA and CTN agree with the authors of OPP Working Paper No. 38 that “[s]peed is an essential attribute of a good transition mechanism” and that “[s]peed should include the time to implement the mechanism, the speed with which the mechanism determines an efficient

²³⁸ It is also worth noting that the *NPRM* does include one of the components suggested in OPP Working Paper No. 38 for a MDS/ITFS auction – the inclusion in any restructuring auction of “one or more bands in a higher frequency range that could be auctioned simultaneously as potential replacement spectrum for incumbents who may wish to relocate.” OPP Working Paper No. 38 at 35. It was recognized that this “would help to avoid uncertainty about the cost and availability of replacement spectrum for incumbents who wish to continue operation in another band.” *Id.* WCA, NIA and CTN frankly do not believe that any such spectrum exists that will inevitably result in diminished participation in any auction by the many members of the MDS/ITFS community who are anxious to deploy services, not exit from the business.

market allocation once implemented, and likely post-mechanism delays such as legal challenges.”²³⁹ When all is said and done, however, WCA, NIA and CTN do not believe that the Commission’s proposed two-sided auction (or even a three-sided auction) will expedite the deployment of new services in the 2.5 GHz band. To the contrary, adoption of the Commission’s proposal inadvertently could cause substantial delays.

First, as recognized in the OPP Working Paper No. 38, the Commission’s authority to conduct auctions is limited by the “plain language” of Section 309(j)(1) of the Communications Act of 1934, as amended, to “initial licenses.”²⁴⁰ The *NPRM* acknowledges the limited scope of Section 309(j)(1), but contends that the Commission “can design such an auction consistent with our mandate and authority.”²⁴¹ Although the *NPRM* is not entirely clear, it appears the Commission is proposing to base its authority to conduct two-sided auction on the untested proposition that in an auction to restructure the 2.5 GHz band, it will “make available initial licenses to use the spectrum pursuant to new service rules” and that “any restructuring auction would offer new licenses, whether conducted without, before, or after the adoption of a new band plan.”²⁴² While this is clearly a clever construct, the Commission should not discount the possibility that a reviewing court will see a two-sided auction for what it really is – an event designed to allow existing licenses to be transferred.

And therein lies the potential for substantial delay. In the absence of an unambiguous declaration by Congress that the Commission can conduct two-sided auctions, there is a

²³⁹ OPP Working Paper No. 38 at 9.

²⁴⁰ OPP Working Paper No. 38 at 36-37.

²⁴¹ *NPRM*, 18 FCC Rcd at 6820-21.

²⁴² *See id.* at n.582.

significant risk that such an auction could set off a legal battle that results, similar to the PCS C Block auction, in spectrum laying idle for years or awarding winning bidders licenses subject to a substantial legal “cloud.” Thus, WCA, NIA and CTN not only agree that “new legislative authority clearly and specifically authorizing such auctions would be desirable,” but submit that two-sided auctions cannot proceed without it. It remains to be seen whether a Congressional authorization will ever be granted. Given the uncertainty as to whether Congress will ever provide the necessary authorization, it would be highly inefficient to delay the licensing of the ITFS white space in the hope that additional authority will be forthcoming.

Second, the risk of substantial delay is magnified by the complexity of any potential restructuring auction. For example, the OPP Working Paper No. 38 acknowledges that “[p]roviding for package bidding introduces additional limitations on auction scale” and that the only package bidding auction scheduled to date contains only 12 licenses.²⁴³ To put this in context, were the Commission to conduct a restructuring auction for just St. Louis, MO, a three-sided auction would involve twelve licenses and eleven leases, for a total of 23 individual units (and that does not include all of the surrounding markets that would have to be transitioned in order for a St. Louis cellular system to be viable). Assuming full participation by all licensees and lessees, a nationwide package bidding auction would likely involve more than ten thousand separate licenses and leases.²⁴⁴ OPP Working Paper No. 38 concedes that use of simultaneous two-sided package-bidding auctions would create “operational concerns for the FCC, which has

²⁴³ OPP Working Paper No. 38 at 17.

²⁴⁴ Note that because the vast majority of these bidding units reflect existing licenses and leases, the ultimate determination of whether to auction the ITFS white space in large geographic areas or BTAs will have no material impact on the Commission’s ability to conduct a two-sided, package-bidding auction.

limited staff with experience conducting an auction, especially one with a novel design.”²⁴⁵ The MDS/ITFS industry should not be put on hold while the Commission develops the software and the internal resources to conduct an auction of the required magnitude.

During any restructuring auction that actually has the mass participation OPP Working Paper No. 38 recognizes is essential for success, the Commission’s anti-collusion rules would effectively preclude participants in the auction from engaging in a wide variety of transactions designed to consolidate and rationalize the spectrum. Indeed, the anti-collusion rules would arguably prevent licensees in a given market from engaging in the sorts of channel swaps and other arrangements that are expected to be agreed to during the Transition Planning Period. In other words, an auction (which likely would take months to complete) will effectively freeze transitioning to the new bandplan – a high price to pay for an auction that is not likely to yield significant changes in the licensing environment. The industry’s efforts during these months will be much better spent focusing on transitioning individual markets and deploying services to the public. As noted above in Section III, the Coalition Plan was carefully crafted to meet the industry’s need for rapid transitions to the new bandplan, a need that Commission-conducted auctions are unlikely to meet.

It should also be emphasized that WCA, NIA and CTN’s opposition to a Commission-conducted restructuring auction should not foreclose the possibility of one or more private auctions being conducted at some point in the future. If there is any demand for a restructuring auction, the discussion above should make it clear that such an auction will have to be carefully tailored to meet marketplace needs and very unique circumstances surround the MDS/ITFS

²⁴⁵ OPP Working Paper No. 38 at 17.

bands. As the Commission recognized when it decided not to conduct a restructuring auction for the 700 MHz band and instead leave any such auction to the private market, “the private sector is better suited to determine what mechanisms interested parties might demand and to implement a secondary auction in a manner that is most responsive to [incumbents’] and potential bidders’ needs.”²⁴⁶ Particularly given that the ITFS white space “table scraps” have little value relative to the currently licensed MDS and ITFS spectrum and the existing lease rights in that spectrum, the inability of a private auction to include the ITFS white space is unlikely to have a material impact.²⁴⁷ Indeed, if the Commission moves rapidly to auction the ITFS white space as suggested by WCA, NIA and CTN, those auction winners will be free to include that spectrum in any future private auction event.

Finally, WCA, NIA and CTN must address the suggestion in the *NPRM* that somehow an auction event can be an effective substitute for the adoption of a new bandplan and the adoption of rules designed to promote cellular services in the LBS and the UBS.²⁴⁸ Admittedly, *if* the Commission can secure legal authority from Congress to conduct such an event, *if* the Commission can address all of the practical problems discussed above, including the need to include in any auction lessees of spectrum who have acquired long-term rights that cannot be extinguished by Commission fiat, *if* all MDS and ITFS licensees and lessees decide to put their

²⁴⁶ *Service Rules for the 746-776-794 MHz Bands, and Revisions to Part 27 of the Commission’s Rules*, 16 FCC Rcd 2703, 2720 (2001).

²⁴⁷ Thus, while OPP Working Paper No. 38 suggests that a benefit of an FCC-conducted auction is the ability to coordinate the sale of unencumbered spectrum at the same time as encumbered spectrum, that will be of limited benefit here. *See* OPP Working Paper No. 38 at 23. Moreover, while OPP Working Paper No. 38 asserts that the FCC is in the best position to ensure participation, the *NPRM* does not propose any “carrots” or “sticks” that would not be available to private auctioneers. *See id.* Thus, while there may be times when an FCC-conducted restructuring auction makes sense, this is not one of them.

²⁴⁸ *See NPRM*, 18 FCC Rcd at 6765, 6821.

authorizations and lease rights up for sale in the auction, *if* all MDS and ITFS licensees and lessees receive bids for their authorizations and lease rights that entice them to sell, and *if one entity were to acquire access to all of the authorizations and lease rights for all of the 2.5 GHz band across the United States*, then the Commission need not adopt a new bandplan or provide a mechanism for transitioning to the new bandplan. At the risk of understatement, it is highly unlikely that this will occur – no matter what type of auction event the Commission crafts, there are likely to be many, many licensees and lessees in the 2.5 GHz band for the foreseeable future. Thus, for all of the reasons addressed in the Coalition Proposal, if there are going to be multiple licensees in the band with potentially different business and technology plans, it is essential for the Commission to adopt rules that will segregate high-power, high-site operations from cellular operations, free the cellular band segments from unnecessary regulation, and provide for a transition from the current regulatory environment to the new.

G. Revised Agreements With Mexico And Canada Are Necessary To Promote The Deployment Of Wireless Broadband Services Over MDS/ITFS Spectrum.

In connection with the auctioning of the ITFS white space, the *NPRM* inquires as to whether special rules are required with respect to service areas near the borders with Canada and Mexico.²⁴⁹ WCA, NIA and CTN agree with the Commission’s conclusion that it should “license all geographic areas on a uniform basis without regard to whether all or part of the geographic area is in a border area.”²⁵⁰ However, WCA, NIA and CTN strongly believe that for broadband and other applications to flourish near the borders, the Commission must revisit the agreements it currently has in place with Canada and Mexico governing the provision of services in the 2.5

²⁴⁹ See *NPRM*, 18 FCC Rcd at 6754-55.

²⁵⁰ *Id.* at 6755.

GHz band in border areas. Experience has shown that these agreements unduly restrict deployment, slowing it to a crawl in many cases and effectively precluding it in others. Indeed, the agreement with Mexico does not even address two-way services in border areas. Revised agreements will expedite the introduction of much-needed services on both sides of the border, and WCA, NIA and CTN stand ready to assist the Commission in crafting agreements that fairly reflect domestic needs, as well as the needs of licensees in Mexico and Canada (the largest of which are members of WCA).

VIII. THE COMMISSION SHOULD NOT IMPOSE CROSS-OWNERSHIP OR OTHER ELIGIBILITY REQUIREMENTS ON MDS/ITFS THAT ARE NOT REQUIRED BY STATUTE.

The *NPRM* solicits comment on whether the Commission should adopt cross-ownership or other restrictions on the eligibility of cable system operators, local exchange carriers (“LECs”) or CMRS providers to own MDS licenses or to lease capacity of MDS and/or ITFS stations, and whether any MDS use for broadband service is prohibited by Section 613(a) of the Communications Act, as amended, which forbids cable ownership of MDS licenses with PSAs that overlap the cable franchise area.²⁵¹ For the reasons set forth below, the Commission’s own precedent and other factors confirm that the Commission should not impose any such restrictions beyond those required by Section 613(a).

First and foremost, the Commission has consistently favored open eligibility for licenses in flexible use wireless services, regardless of the spectrum involved.²⁵² Indeed, the regulatory

²⁵¹ See *NPRM*, 18 FCC Rcd at 6772-77.

²⁵² CTN and NIA wish to clarify that, in this discussion, “open eligibility” refers to the lack of restrictions on ownership of MDS stations, or use of capacity of MDS and/or ITFS stations pursuant to lease, by certain specified entities for competitive reasons, *not* to the possibility of ownership of ITFS stations by commercial entities. The

model for much of the Coalition Proposal, Part 27, provides no restrictions on cable, LEC or CMRS eligibility for WCS,²⁵³ the lower 700 MHz band,²⁵⁴ the upper 700 MHz band,²⁵⁵ and the 27 MHz of “government transfer” spectrum in the 216-220 MHz, 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, 1432-1435 MHz, 1670-1675 MHz and 2385-2390 MHz bands.²⁵⁶ Similarly, no such restrictions are imposed on licensees in the 24 GHz band,²⁵⁷ the 28 GHz and 31 GHz bands (LMDS);²⁵⁸ the 39 GHz band;²⁵⁹ or on bidders for rural cellular licenses recently made available through auction.²⁶⁰ Moreover, the Commission has proposed to adopt open eligibility rules for spectrum in the 1710-1755/2110-2155 MHz band that will be auctioned for Advanced Wireless Services;²⁶¹ the 3650-3700 MHz band;²⁶² and the 71-76, 81-86 and 92-95 GHz bands.²⁶³ In all of these cases, the decision to permit or propose open eligibility arose from the Commission’s belief that open eligibility will encourage entrepreneurial efforts to develop

issue of “open eligibility” for commercial ownership of ITFS licenses, as noted above, is addressed in separate comments submitted by CTN and NIA, while WCA is taking no position on the issue at this time.

²⁵³ See *WCS R&O*, 12 FCC Rcd at 10829; 47 C.F.R. § 27.12.

²⁵⁴ See *Lower 700 MHz R&O*, 17 FCC Rcd at 1074.

²⁵⁵ See *Upper 700 MHz First R&O*, 15 FCC Rcd at 497.

²⁵⁶ See *27 MHz R&O*, 17 FCC Rcd at 10006-07.

²⁵⁷ See *24 GHz R&O*, 15 FCC Rcd at 16948-50.

²⁵⁸ See *Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission’s Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services*, 15 FCC Rcd 11857, 11867-71 (2000) [*“LMDS Third R&O”*].

²⁵⁹ See *39 GHz Order*, 12 FCC Rcd at 18619-20.

²⁶⁰ See *Implementation of Competitive Bidding Rules to License Certain Rural Service Areas*, 17 FCC Rcd 1960, 1966-69 (2002).

²⁶¹ See *Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands*, 17 FCC Rcd 24135, 24152-53 (2002) [*“AWS Service Rules NPRM”*].

²⁶² See *3650-3700 First R&O and Second NPRM*, 15 FCC Rcd at 20513.

²⁶³ See *Allocations and Service Rules for the 71-76 GHz, 81-86 GHz and 92-95 GHz Bands*, 17 FCC Rcd 12182, 12211-12 (2002) [*“70/80/90 GHz NPRM”*].

new services and ensure the most efficient use of the spectrum at issue, without causing anticompetitive harm. As shown below, the Commission can and should make the same finding with respect to the 2.5 GHz band.

Commission precedent establishes that restrictions on the eligibility of cable operators, LECs or CMRS providers should be imposed only where there is a significant likelihood of substantial competitive harm in specific markets, and only when eligibility restrictions are an effective way to address such harm.²⁶⁴ As noted in the *NPRM*, however, the showing necessary to justify eligibility restrictions under these criteria must be “compelling.”²⁶⁵ No such showing can be made with respect to the 2.5 GHz band – since licensees in the new regulatory regime will have both the legal authority and ability to provide *any* fixed, portable or mobile service in *any* market, it is impossible at this time to assess with any specificity exactly how, when, where and for what purpose MDS/ITFS spectrum will be deployed.²⁶⁶ A cable operator, LEC or CMRS provider could use MDS/ITFS spectrum to provide, *inter alia*, in-region or out-of-region mobile wireless voice services, in-region or out-of-region mobile wireless data services, in-region or out-of-region fixed wireless voice or data services, and/or video services, in a variety of markets defined by geography (*e.g.*, large market, mid-size market, small market or rural) and by type of customer (*e.g.*, residential, small business, large business, “hotspots,” resort/vacation, educational, government, medical, public safety, etc.). Under these circumstances, any public

²⁶⁴ See *NPRM*, 18 FCC Rcd at 6773-74.

²⁶⁵ *NPRM*, 18 FCC Rcd at 6773-74 (“[W]e believe we should rely on competitive market forces to guide license assignment absent a *compelling showing* that regulatory intervention to exclude potential participants is necessary.”) (emphasis added).

²⁶⁶ See, *e.g.*, *70/80/90 GHz NPRM*, 17 FCC Rcd at 12212 (“Because we are unsure of the exact type of services that will operate in the subject bands, we are unable to conclude whether open eligibility poses a significant likelihood of substantial competitive harm in specific markets or whether...eligibility restrictions should specify the level of restrictions that would address any perceived harm.” (footnotes omitted)).

interest justification for imposing eligibility restrictions beyond those in Section 613(a) would be speculative at best and reversible error at worst.²⁶⁷

Furthermore, even if the Commission is correct in assuming that the 2.5 GHz band “will be largely used as a mobile voice and data service,”²⁶⁸ the agency’s competition analysis must remain broad in scope, which again militates heavily against the adoption of additional eligibility restrictions.²⁶⁹ Indeed, the Commission’s most recent annual *CMRS Competition Report* confirms that, by any standard, the CMRS industry already is highly competitive and that additional eligibility restrictions are unnecessary to preserve competition in mobile voice or data services.²⁷⁰ Specifically:

- 95% of the total U.S. population lives in counties with access to three or more different mobile service providers (cellular, broadband PCS, and/or digital SMR), 83% live in counties with five or more mobile service providers, and about 25% live in counties with seven or more mobile service providers. In addition, the percentage of the population living in counties with six or more mobile service providers has grown 34% over last year – all totaled, more than 200 million

²⁶⁷ See, e.g., *Cincinnati Bell Telephone Co. v. FCC*, 69 F.3d 752, 764 (6th Cir. 1995) (“[W]hile avoiding excessive concentration of licenses certainly is a permissible goal under the Communications Act, simply precluding a class of potential licensees from obtaining licenses (without a supported economic justification for doing so) solves the problem arbitrarily.”); cf. *Fox Television Stations, Inc. v. FCC*, 280 F.3d 1027, 1051 (D.C. Cir. 2002) (“We acknowledge that the court should ordinarily defer to the Commission’s predictive judgments....In this case, however, the Commission has not shown a substantial enough probability of discrimination to deem reasonable a prophylactic rule as broad as the [cable/broadcast] cross-ownership ban, especially in light of the already extant conduct rules.”).

²⁶⁸ *NPRM*, 18 FCC Rcd at 6774-75.

²⁶⁹ See *Implementation of Sections 3(n) and 332 of the Communications Act – Regulatory Treatment of Mobile Services*, 9 FCC Rcd 7988, 8009 (1994) (“[W]e have concluded that we should adopt an expansive view of the extent of actual or potential competition in the commercial radio services marketplace for purposes of examining the technical and operational rules governing these services. In other words, we will determine the reclassified services that are ‘substantially similar’ to common carrier services based upon a broad assessment of whether licensees in these services are actual or potential competitors with one another. This broad approach will take into account the rapid changes in technology and the resultant dynamic nature of the mobile services marketplace.”).

²⁷⁰ See *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services*, FCC 03-150, at ¶¶ 12-13 (rel. July 14, 2003) [*“Eighth Annual CMRS Competition Report”*] (concluding that “there is effective competition in the CMRS marketplace,” including rural areas).

people, or 71% of the U.S. population, can now choose from among six or more different mobile telephone operators providing service somewhere in their counties.²⁷¹

- “Continued downward price trends, the continued expansion of mobile networks into new and existing markets, high rates of investment, and churn rates of about 30 percent, when considered together with the other metrics, demonstrate a high level of competition for mobile telephone consumers.”²⁷²
- “Given the various sources we have used to examine the [mobile data] segment of the CMRS industry, we believe the multitude of mobile data services, service providers, pricing plans, and devices available to consumers provides evidence that competition for the provision of mobile data products is developing successfully. The numerous, new mobile data products also represent service innovations that CMRS providers are offering in order to compete with each other; hence, the existence of these service offerings provides further evidence that the CMRS industry is competitive.”²⁷³

There is also no indication that eligibility restrictions for MDS/ITFS are necessary to ensure competitors in the wireless marketplace have full and fair access to spectrum. First, in its December 2001 *Report and Order* removing the spectrum cap for CMRS licensees (the “*Spectrum Cap R&O*”), the Commission stated it had no evidence that “firms are currently holding excess spectrum in order to deter entry or that the benefits of excluding competitors would exceed the cost of acquiring spectrum....”²⁷⁴ Second, although in that same decision the Commission found that “the supply of suitable [CMRS] spectrum is limited,”²⁷⁵ it also found that “any concern about the possibility of competitive impact of moderately increased concentration

²⁷¹ *Id.* at ¶ 84.

²⁷² *Id.* at ¶ 57.

²⁷³ *Id.* at ¶ 127.

²⁷⁴ 2000 *Biennial Regulatory Review – Spectrum Aggregation Limits for Commercial Mobile Radio Services*, 16 FCC Rcd 22668, 22692 (2001)[“2000 *Biennial Review*”]. See also 39 *GHz Order*, 12 FCC Rcd at 18619 (“An incumbent strategy of preserving expected future profits by buying 39 GHz licenses cannot succeed because there are numerous other sources of actual and potential competition.”).

²⁷⁵ 2000 *Biennial Review*, 16 FCC Rcd at 22688.

is...materially reduced by the possibility of additional allocations of spectrum over the next two years.”²⁷⁶ Those allocations have already been made, and thus, future spectrum auctions related thereto will make substantial amounts of new spectrum available for mobile services, further minimizing any possibility that incumbent LEC/CMRS ownership of 2.5 GHz band spectrum will have any meaningful effect on competition in the mobile industry. For example, the Commission already plans to auction an additional 78 MHz of spectrum in the lower and upper 700 MHz bands and 90 MHz of spectrum in the 1710-1755/2110-2155 MHz bands for mobile and other flexible use services, and recently reallocated 30 MHz from the Mobile Satellite Service (“MSS”) to the Fixed and Mobile Service on a primary basis.²⁷⁷ In sum, these actions ultimately will make an additional 198 MHz of spectrum available for mobile service, 8 MHz more than that available through MDS/ITFS at 2500-2690 MHz.²⁷⁸ And, any remaining concerns about availability of spectrum will be mitigated by the Commission’s “secondary markets” policy, which authorizes most wireless radio licensees to lease their spectrum to third parties under a streamlined regulatory process.²⁷⁹

Equally important, the Commission must remain cognizant of the chilling effect eligibility restrictions could have on investment in MDS/ITFS infrastructure, particularly in the rural and other less densely populated areas where they are needed the most and for which they

²⁷⁶ *Id.* at 22704.

²⁷⁷ See *Eighth Annual CMRS Competition Report* at ¶¶ 26, 31; *AWS Service Rules NPRM*, *supra*; *AWS Third R&O*, *supra*.

²⁷⁸ In addition, the Commission has already auctioned or will auction 13 MHz of “government transfer” spectrum in the 1390-1392 MHz, 1392-1395/1432-1435 MHz and 1670-1675 MHz bands for flexible use services. See *Eighth CMRS Competition Report* at ¶ 32.

²⁷⁹ See “FCC Adopts Spectrum Leasing Rules and Streamlined Processing for License Transfer and Assignment Applications, and Proposes Further Steps to Increase Access to Spectrum Through Secondary Markets,” *FCC News Release* (May 15, 2003).

are optimally suited. For example, as noted in the *NPRM*, “in situations where expensive plant upgrades are not feasible, DSL service providers may be able to use spectrum to offer broadband Internet service to customers who live in rural areas or beyond distance limitations from the central office.”²⁸⁰ This is not an idle concern – indeed, the need to promote rural wireless service was a factor in the Commission’s decision to remove the cable/LEC eligibility restrictions for LMDS:

The promise of LMDS may be uneconomically slowed by prohibiting incumbent LECs and incumbent cable operators from holding this spectrum and bringing their financial and technical resources to bear on deployment of LMDS spectrum....The eligibility restriction precludes incumbent local exchange and cable operators from using LMDS to extend their geographic coverage to areas where LMDS would be ideal, and transmission by cable or wire might be prohibitively expensive. Incumbents so precluded may either fail to launch service in certain areas or do so at greater than optimal cost. One consequence is that prompt and efficient utilization of advanced technologies may be inhibited. Another consequence is that small and rural carriers are less able to enhance service offerings to respond competitively to emerging wireless broadband service offerings priced and packaged to compete directly with local exchange carrier service.²⁸¹

Nonetheless, if despite this the Commission remains concerned that incumbent cable operators, LECs or CMRS providers will warehouse MDS/ITFS spectrum to the detriment of their competitors, the agency is already empowered under Section 310 of the Communications Act rules to address the issue through its process for approving future assignments and transfers of MDS/ITFS licenses. In particular, section 310(d) requires the Commission not to approve any

²⁸⁰ *NPRM*, 18 FCC Rcd at 6775.

²⁸¹ *LMDS Third R&O*, 15 FCC Rcd at 11870-71 (footnotes omitted); see also *Elimination of the Telephone Company – Cable Television Cross-Ownership Rules, Sections 63.54-63.56, for Rural Areas*, 88 FCC 2d 564, 572 (1981) (“Many small telephone companies, not familiar with our waiver procedures, may be discouraged from implementing broadband services in rural areas by the mere presence of the Commission’s [cable-telco cross-ownership] prohibition. Furthermore, the expense of acquiring legal, engineering and other assistance to obtain a waiver may be an additional impediment.”).

transfer, assignment or disposal of a license, or attendant rights unless it finds that the public interest, convenience, and necessity will be served thereby.²⁸² Significantly, there is ample precedent for the Commission to rely on its Section 310(d) authority in lieu of imposing eligibility restrictions. As to LMDS, for example, the Commission found that “the Commission’s rules relating to the assignment and transfer of LMDS licenses will provide us with an effective tool to ensure that proposed license acquisitions by incumbent LECs or cable operators will not, in particular cases, be inconsistent with the pro-competitive policies that guide our licensing of LMDS and that led to our establishment of the eligibility restrictions.”²⁸³ Similarly, in lieu of the spectrum cap, the Commission committed to perform “case-by-case review of CMRS spectrum aggregation transactions in order to fulfill the Commission’s statutory mandates to promote competition.”²⁸⁴ This approach assures that the Commission’s competition analysis accounts for the unique facts and circumstances of each individual case, without imposing across-the-board eligibility restrictions where they are not necessary. Given the Commission’s precedent and the dubious factual foundation for cable, LEC or CMRS eligibility restrictions generally, use of the case-by-case approach for MDS/ITFS is both sensible and more likely to withstand judicial scrutiny.

The Commission also expresses concern that permitting eligibility for incumbent DSL providers “could have a negative impact in some broadband Internet markets.”²⁸⁵ As discussed

²⁸² 47 U.S.C. § 310(d).

²⁸³ *Rulemaking to Amend Parts 1, 2, 21 and 25 of the Commission’s Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services*, 13 FCC Rcd 4856, 4906-07 (1998).

²⁸⁴ *Spectrum Cap R&O*, 16 FCC Rcd at 22696.

²⁸⁵ *NPRM*, 18 FCC Rcd at 6776.

above, however, this concern is mitigated substantially by the Commission's own precedent on open eligibility and its assumption in the *NPRM* that MDS/ITFS under the new regulatory regime will be deployed for *mobile* services. Also, as reflected in the Commission's treatment of LMDS, the Commission is well aware that incumbent LECs are particularly well equipped to bring wireless services to rural and other areas that cannot be served economically by wired technology.

In any event, whatever the speculative benefits of imposing an LEC/DSL eligibility restriction on MDS/ITFS may be (and they are nothing more than that), they do not outweigh the enormous harm such a restriction would impose on those MDS/ITFS rights holders who also provide local exchange and/or DSL service that overlaps their 2.5 GHz band service areas, and who have already made enormous investments in reliance on the Commission's existing eligibility rules. BellSouth Corporation holds MDS/ITFS spectrum rights throughout its telephone service area in the southeastern United States, and has already invested hundreds of millions of dollars in acquiring MDS/ITFS spectrum rights and developing MDS/ITFS infrastructure.²⁸⁶ Similarly, Sprint Corporation (whose investment in MDS/ITFS exceeds \$2 billion), provides DSL service nationwide and local exchange service in three states where it holds overlapping MDS/ITFS interests (Florida, Texas and Kansas). Given their already enormous commitment to MDS/ITFS, there is no legitimate public interest justification for the Commission to now turn its back on these companies and adopt eligibility restrictions that may preclude them from holding MDS/ITFS spectrum rights or expanding MDS/ITFS service into new markets.

²⁸⁶ See BellSouth Comments at 2.

Finally, the Commission requests comment on the scope of the statutory cable/MDS cross-ownership ban and, more specifically, the extent to which it applies to MDS licenses used for non-video services. Under Section 613(a) of the 1992 Cable Act, a cable operator may not hold a MDS license in any portion of its franchise area where it provides service, unless (1) the Commission determines that cable/MDS cross-ownership is necessary to ensure that all significant portions of the cable operator's franchise area are able to obtain video programming, or (2) the cable operator is subject to effective competition. WCA, NIA and CTN recognize that the text of the statute does not draw a distinction between MDS licenses used for video versus non-video services, and that the Commission therefore may not have the authority to apply the statute only to MDS licenses used for video services.²⁸⁷ As a practical matter, however, the statute will lose significance over time as an increasing number of cable systems become subject to effective competition from DBS. Further, by its terms Section 613(a) does *not* require the Commission to adopt non-cable eligibility restrictions for MDS licenses used for *any* service, and, in view of the above, it should not do so here. Similarly, the statute does not impose any eligibility restrictions on the *leasing* of MDS or ITFS spectrum. Hence, should it determine that no non-statutory eligibility restrictions are required for the 2.5 GHz band, the Commission can

²⁸⁷ Arguably, however, the text of Section 613(a) is not the last word on the subject. As noted by the D.C. Circuit: "Our inquiry...does not end [with the text of the statute], but must continue to 'the language and design of the statute as a whole.'" *ASTV v. FCC*, 46 F.3d 1173, 1178 (D.C. Cir. 1995) (citations omitted). Taking particular note of the relevant legislative history, the D.C. Circuit concluded in *ASTV* that the then-existing statute prohibiting telco-cable cross-ownership did not apply to telco provision of wireless cable service, notwithstanding the fact that the text of the statute drew no distinction between cable and wireless cable service. Here, the Commission has already determined that Congress adopted Section 613(a) out of concern that "common ownership of different means of *video* distribution may reduce competition and limit the diversity of voices available to the public." *Implementation of Sections 11 and 13 of the Cable Television Consumer Protection and Competition Act of 1992*, 8 FCC Rcd 6828, 6841 (1993) (footnote omitted) (emphasis added). With this legislative history in hand, the Commission should at least consider whether the mode of analysis in *ASTV* is relevant here, and whether the Commission therefore may look beyond the text of Section 613(a) and apply the statutory cable/MDS cross-ownership ban exclusively to MDS licenses used for video services.

and should eliminate its rules that preclude cable operators from leasing MDS and ITFS channels under certain circumstances.²⁸⁸

IX. THE COMMISSION SHOULD NOT INCREASE THE ITFS PROGRAMMING REQUIREMENTS IMPOSED ON LICENSEES THAT LEASE EXCESS CAPACITY.

Under the regulatory regime that has been in place for the past five years, an ITFS licensee that engages in the leasing of excess capacity and that has digitized its operations is required to retain a minimum of five percent of the resulting digitized transmission capacity for educational programming.²⁸⁹ Although the Coalition Proposal did not suggest any revision to this requirement and the *NPRM* does not propose any revision for existing licensees, Paragraph 116 of the *NPRM* does solicit public comment on whether it should mandate “a higher percentage of educational use for new ITFS licensees, such as twenty-five percent which was advocated by the ITFS community in the past.”²⁹⁰

WCA, NIA and CTN are pleased that the Commission is not proposing to make any changes with respect to the minimum educational programming requirements imposed upon existing ITFS licensees. Over the past five years, many commercial system operators and ITFS

²⁸⁸ Presently, the Commission generally prohibits a cable operator from leasing a MDS channel whose protected service area overlaps the cable operator’s franchise area, or leasing an ITFS channel whose transmitter is within 20 miles of the cable operator’s franchise area. See 47 C.F.R. §§ 21.912(b), 74.931(i).

²⁸⁹ See *Amendment of Parts 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Two-Way Transmissions*, 13 FCC Rcd 19112, 19159-60 (1998) [“*Two-Way R&O*”]; *NPRM*, 18 FCC Rcd at 6766-68. WCA, NIA and CTN note that the *NPRM* appears to mistakenly assume that this requirement did not apply to spectrum utilized for upstream transmissions. See *NPRM*, 18 FCC Rcd at 6766-68, citing *Two-Way R&O*, 13 FCC Rcd at 19155. In fact, while the Commission did not require that the 5% requirement be satisfied over the particular channels designated for upstream use, it made clear that a licensee’s educational requirement (which can be met over any channel in the system) would be calculated based on the total number of channels licensed to that licensee, including channels used for upstream communications. See *Two-Way R&O*, 13 FCC Rcd at 19155 (“Moreover, the educational usage requirements attached to an ITFS main station and booster station will be based on the number of channels allocated to the main station, including channels which the licensee “turns around” for upstream transmissions”)(footnotes omitted).

²⁹⁰ *NPRM*, 18 FCC Rcd at 6771.

licensees have entered into spectrum lease agreements in compliance with the existing leasing rules. Pursuant to these leases, ITFS licensees already have received substantial consideration in the form of equipment and financial contributions in exchange for their agreement to lease excess capacity on a long-term basis, and will be receiving important additional consideration in the future. The Commission should not interfere with these existing leases, particularly where an increase in the minimum educational reservation may require substantial reductions in the consideration ITFS licensees receive to fund educational services to their constituents. Indeed, a retroactive change in the leasing rules would have a chilling effect on future leasing of ITFS and other spectrum – if secondary markets are to work, the Commission must provide lessees with absolute certainty as to what they are leasing.²⁹¹ A mid-stream change in the ITFS leasing rules now will deter commercial operators from investing the billions of dollars it will take to construct a nationwide 2.5 GHz broadband infrastructure, for it will not only reduce the commercial capacity of those systems, it will raise doubts as to whether future rule changes will adversely impact commercial operations. Here the Spectrum Policy Task Force Report is again instructive – “a level of certainty regarding one’s ability to continue to use spectrum, at least for some foreseeable period, is an essential prerequisite to investment, particularly in services requiring significant infrastructure installation and lead time.”²⁹²

Moreover, there are several reasons why WCA, NIA and CTN do not support any change in the minimum leasing rule applicable to new ITFS licenses. First, new ITFS licenses are likely

²⁹¹ See *Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets*, 15 FCC Rcd 24203, 24211-12 (2000); *Principles for Promoting the Efficient Use of Spectrum by Encouraging the Development of Secondary Markets*, 15 FCC Rcd 24178, 24184-85 (2000).

²⁹² *SPTF Report* at 23.

to be issued to existing ITFS licensees that decide to expand their service areas into the regions surrounding their GSAs. Imposing different minimum retention requirements on different licenses used by a single licensee to provide a single service imposes an unnecessary regulatory burden.

Second, if ITFS licensees are required to preserve significantly more capacity for their own use in the outlying ITFS white space, commercial operators may not be interested in building out ITFS facilities that will serve that white space. Because the available ITFS white space tends to cover areas for which there is limited demand for commercial services, commercial system operators will often be able to meet their demand for spectrum using just MDS capacity; certainly, the greater the minimum retention requirement, the less likely commercial operators will be to devote resources to building out ITFS networks in these areas. Thus, the Commission's proposal could backfire – rather than resulting in additional educational programming, the Commission could deter the leasing activity that may be essential for ITFS infrastructure to be constructed in the white space.

Finally, 5% of the capacity of a commercial digital system provides ITFS licensees with substantial educational capacity. Although the 5% requirement adopted in 1998 was not supported by the ITFS community, it has proven a workable minimum requirement. Many ITFS licensees reserve substantially more than the minimum requirement or have the ability to recapture more than the minimum they reserve. And, given that digital technology allows the transmission of multiple program “tracks” on a 6 MHz channel, an ITFS licensee that enters into a lease agreement that provides for digitization will have access to significantly more capacity

than an ITFS licensee that continues to utilize analog technology and reserves 25% of its capacity for its own use, even if it only reserves the minimum.

On a related note, the Commission inquires as to whether the transmission of data services by an ITFS licensee should apply towards the ITFS programming requirement and, if so, how data should be counted.²⁹³ As reflected throughout these comments, there is in fact no doubt that data services can and should meet ITFS educational use requirements, and that data services are likely to be of increasing importance to education.

Indeed, the Commission already clearly answered this question in the affirmative in the *Report and Order* in MM Docket No. 97-217 – the proceeding in which the Commission first adopted rules allowing MDS and ITFS licensees to be routinely licensed to engage in two-way data services.²⁹⁴ After having “sought comment on whether data transmission and voice transmission should count toward the fulfillment of minimum programming requirements,” the Commission concluded:

We believe the availability of advanced technologies dictates that it is now time to accord ITFS licensees with increased flexibility in determining which transmissions qualify as satisfying ITFS educational usage requirements, so long as such transmissions are in furtherance of the educational mission of an accredited public or private school, college or university, or other eligible institution, offering courses to enrolled students. Such uses may include downstream or upstream video, data and voice transmissions. In addition, while heretofore not qualifying to satisfy educational usage requirements, qualifying uses now may include, but are not limited to, teacher conferencing, remote test administration, distribution of reports and assignments, research towards and sharing works of progress in projects for courses, professional training, continuing education, and other similar uses.²⁹⁵

²⁹³ See *NPRM*, 18 FCC Rcd at 6771.

²⁹⁴ *Two-Way R&O*, *supra*.

²⁹⁵ *Two-Way R&O*, 13 FCC Rcd at 19154 (footnotes omitted). To the extent that there are remnants of the old “video” educational requirements still lurking in the present ITFS rules, WCA, NIA and CTN believe that their continued presence reflects no intention on the part of the Commission to require video for educational purposes, but a failure to fully edit the video references from the rules at the time of the *Two-Way Report and Order*.

The Commission recognized the inherent difficulties in tracking the educational or instructional nature of voice and data communications, and concluded that “the best course is to rely on the good faith efforts of ITFS licensees to meet the requirements....We are not instituting any new, formal, proof of compliance reporting submission in this area.”²⁹⁶ This approach has worked well to date, and there is no reason to alter it now.

Finally, the *NPRM* proposes to relieve ITFS operators of the burden of filing every channel lease agreement with the Commission, with the proviso that licensees retain copies in their files and make them available to the Commission upon request.²⁹⁷ WCA, NIA and CTN support this proposal – adoption will eliminate an unnecessary regulatory burden, while still providing the Commission access to excess capacity leases where necessary.

X. THE COMMISSION SHOULD CONSOLIDATE ITS NEW TECHNICAL AND LICENSING RULES FOR MDS AND ITFS UNDER PART 27, CONSISTENT WITH ITS APPROACH FOR OTHER FLEXIBLE USE SERVICES.

As discussed throughout the Coalition Proposal, the optimal regulatory framework for MDS/ITFS is under Part 27 of the Commission’s Rules, which the Commission originally created for the Wireless Communications Service (“WCS”) and has since applied to other flexible use, geographically licensed wireless services.²⁹⁸ In the *NPRM*, however, the Commission not only seeks comment on the applicability of Part 27, but also solicits comment

²⁹⁶ *Id.*, 13 FCC Rcd at 19162.

²⁹⁷ *See NPRM*, 18 FCC Rcd at 6771-72.

²⁹⁸ *See, e.g.*, Initial Coalition Proposal at 25 (“Consistent with the approach the Commission has taken with a variety of other emerging services, WCA, NIA and CTN believe that the Commission should regulate the use of the LBS, UBS and I channel bands with a light touch. Again, they believe that the Commission’s approach to the various new Part 27 services should serve as the model.”); *id.* at 51 (“[W]hile there clearly is a need for special rules due to the educational nature of ITFS spectrum (such as eligibility, and minimum educational usage requirements, for which no changes are proposed), the Commission should closely examine all Part 21 and Part 74 MDS/ITFS rules that do not have an analog in Part 27 and generally conform the MDS/ITFS regulatory regime to that for WCS.”).

on consolidating the MDS/ITFS service rules under Part 101.²⁹⁹ For the reasons set forth below, both the Commission's own precedent and basic principles of regulatory parity warrant consolidation of the new MDS/ITFS rules under Part 27.

Consistent with the Commission's findings with respect to other wireless services, the new MDS/ITFS regulatory regime assumes that consumer benefits will be maximized if MDS and ITFS licensees are permitted to take maximum advantage of flexible use and are free to construct and operate facilities within their geographically-licensed service areas with a minimum amount of regulation.³⁰⁰ Those, of course, are the core objectives of Part 27:

[W]e believe that a flexible licensing approach will allow licensees the freedom to determine the services to be offered and the technologies to be used in providing those services. This flexibility will better enable licensees to use their assigned frequencies in response to market forces....In light of these considerations, we believe that the general application of our Part 27 licensing and operating rules will promote flexible and efficient use of the unpaired 1390-1392 MHz, 1670-1675 MHz, and 2385-2390 MHz bands and the paired 1392-1395 MHz and 1432-1435 MHz bands. We agree with the commenters that application of our Part 27 rules will provide licensees a streamlined licensing framework that will foster innovation, flexible use and regulatory certainty.³⁰¹

²⁹⁹ See *NPRM*, 18 FCC Rcd at 6740-41. The *NPRM* solicits comment on the merger of MDS and ITFS into a single new service to be called the "Broadband Communications Service." See *NPRM*, 18 FCC Rcd at 6743-44. WCA, NIA and CTN certainly do not object to the establishment of a single set of rules to govern them with as much standardization as is appropriate. However, they question whether the Commission should specifically identify the service as being for "broadband" or for any other application. The point of the *NPRM*, after all, is to provide licensees with the flexibility to provide a wide variety of services. While broadband is certainly the focus of the industry's efforts at the present time, labeling the service as "broadband" may prove a misnomer in the future.

³⁰⁰ See, e.g., Initial Coalition Proposal at 10, 23.

³⁰¹ *27 MHz R&O*, 17 FCC Rcd at 9988 (footnotes omitted). See also *Upper 700 MHz First R&O*, 15 FCC Rcd at 478 ("[W]e find that a flexible, market-based approach is the most appropriate method for determining service rules in [the Upper 700 MHz Band]. . . To comport with the range of potential service applications on these bands, and our intended use of Part 27 as a basic regulatory framework for service rules governing other bands, we have also recast the structure of the Part 27 rules to reflect their revised scope.") (footnotes omitted). Having recognized it misplaced Local Multipoint Distribution Service ("LMDS") under Part 101, there is no reason for the Commission to compound its error by placing MDS and ITFS anywhere but Part 27.

Moreover, the Commission's proposal to regulate MDS/ITFS under Part 101 rather than Part 27 overlooks the fact that Part 101 was not created for the flexible use, wide-area services MDS/ITFS is now authorized to provide. To the contrary, the Commission created Part 101 to simplify and conform the rules for point-to-point Part 21 common carrier and Part 90 private operational fixed microwave services, in recognition of the fact that those services shared many of the same frequency bands, used substantially the same equipment and had converged their technical standards over time.³⁰² In so doing, the Commission specifically excluded MDS/ITFS from Part 101, noting that "[t]he ITFS and MDS services differ from the services to be included in Part 101 in terms of policy considerations, applicable rules, and technical standards."³⁰³ To the extent that the regulatory regimes applicable to MDS and ITFS have changed since, they have moved even further away from those imposed on the typical Part 101 service.³⁰⁴

³⁰² See *Reorganization and Revision of Parts 1, 2, 21, and 94 of the Rules to Establish a New Part 101 Governing Terrestrial Microwave Fixed Radio Services*, 10 FCC Rcd 2508 (1994).

³⁰³ *Id.* at 2509 n.4.

³⁰⁴ While it is true that the Commission regulates LMDS licensees under Part 101 and LMDS has some similarities to MDS, the Commission's decision to do so predated the creation of Part 27, and the agency has since recognized that Part 27 is better suited for flexible use services. See, e.g., *Amendment to Parts 2, 15 and 97 of the Commission's Rules To Permit Use of Radio Frequencies Above 40 GHz for New Radio Applications*, 13 FCC Rcd 16947, 16969-70 (1998) ("While the Commission has adopted service rules for LMDS in Part 101 of the Commission's Rules, the Commission has also adopted a new set of service rules, in Part 27 of the Commission's Rules, for wireless services in the 2.3 GHz band. These rules provide a licensing framework that may be more appropriate than the Part 101 rules in that they provide for much greater flexibility in the types of services that can be provided and in the technical and operational rules that govern those services.") (footnotes omitted). Like LMDS, geographically licensed wireless services in the 24 GHz and 39 GHz bands too are regulated under Part 101, but that is attributable to the fact that licensees in those bands had been regulated under Part 101 prior to the Commission's adoption of geographic licensing rules for 24 GHz and 39 GHz services. See *Amendment of the Commission's Rules to Relocate the Digital Electronic Message Service From the 18 GHz Band to the 24 GHz Band and to Allocate the 24 GHz Band For Fixed Service*, 12 FCC Rcd 3471, 3476 (1997); *39 GHz Order*, 12 FCC Rcd at 18637.

In short, use of the Part 27 model for MDS/ITFS would give effect to Chairman Powell's pledge to regulate like services similarly.³⁰⁵ While minor changes to Part 27 will be necessary to accommodate some of the unique attributes of MDS and ITFS,³⁰⁶ it is the Part most consistent with how MDS and ITFS are evolving.

XI. CERTAIN REVISIONS TO PART 1 OF THE RULES AND THE POLICIES APPLIED THEREUNDER WILL BE REQUIRED UPON CONSOLIDATION OF THE MDS RULES UNDER PART 27 OR PART 101.

Because Subpart F of Part 1 contains the rules applicable to the processing of applications for all services in the Universal Licensing System, certain revisions to that Subpart will be required whether MDS and ITFS are governed by Part 27 (as proposed by WCA, NIA and CTN) or Part 101. WCA, NIA and CTN understand that the Wireless Telecommunications Bureau has efficiently processed applications under these rules, and believes that, with appropriate consideration of the particular needs of MDS and ITFS, Part 1 can be modified to provide for the licensing of MDS and ITFS facilities without undue impact on processing systems.

A. Minor Revisions To Section 1.929 Are Required To Reflect The MBS Licensing Scheme.

The *NPRM* solicits comments on how the Commission should classify modification applications and amendments to pending applications as either "major" or "minor."³⁰⁷ At

³⁰⁵ See, e.g., Opening Statement of Michael K. Powell before the Subcommittee on Telecommunications and the Internet of the House Committee on Energy and Commerce, at 2 (March 29, 2001) ("We will rationalize and harmonize regulations across industry segments wherever we can and wherever the statute will allow."). In its 1999 *Policy Statement* regarding the encouragement of emerging telecommunications technologies, the Commission recognized that there are substantial public interest benefits to harmonizing the rules applicable to like services. Specifically, the Commission found that "[h]armonization provides regulatory neutrality to help establish a level playing field across technologies and thereby foster more effective competition." *Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium*, 14 FCC Rcd 19868, 19871 (1999). See also *Lower 700 MHz R&O*, 17 FCC Rcd at 1049.

³⁰⁶ For example, as discussed in the Coalition Proposal and herein, WCA, NIA and CTN are proposing several detailed interference protection rules that go beyond the interference protection offered by Section 27.64. Thus, Section 27.64 would have to be revised to reflect the particular rules applicable to MDS and ITFS.

present, Section 1.929 of the Rules contains one set of common classification standards that are applicable to all wireless applications, and establishes other standards on a service-by-service basis for each service based on the particular circumstances applicable to the service.³⁰⁸ Thus, with the development of appropriate individual standards for determining whether MBS filings are “major” or “minor,” Section 1.929 can readily be amended to consolidate the MDS and ITFS major and minor change and major and minor amendment rules.

The common “major changes” standards set forth in Section 1.929(a) would seem to be appropriately applied to ITFS and MDS applications, whether for the LBS/UBS or the MBS. However, additional “major changes” must be defined for application to the MBS channels, so as to assure that the FCC and potentially-affected MDS/ITFS licensees will have a fair opportunity to evaluate the possibility of interference from proposed modifications or from amendments to pending applications. More specifically, the Coalition Proposal suggests that the Commission define as “major” for the MBS any application, or an amendment to pending application, that proposes any of the following: (i) any change in frequency; (ii) any change in polarization; (iii) any increase in height of the C/R of the transmitting antenna by more than 8 meters (26 feet); (iv) any relocation of the station by more than 1.6 km (1 mile); (v) any change in the frequency offset of an analog station (however, an analog station upgrading from no frequency offset to any specific frequency offset (minus, zero or plus) would not be deemed a major change); (vi) any increase in occupied bandwidth; or (vii) any change to the transmission system that results in an

³⁰⁷ See *NPRM*, 18 FCC Rcd at 6788-89.

³⁰⁸ Section 1.929(a) (1) – (6) provides common “major changes” cutting across all wireless services – applications for initial authorizations, substantial changes in ownership, renewal, applications for facilities having a significant environmental effect, applications requiring frequency coordination or international coordination, and applications to add frequencies for which the applicant is not currently authorized.

increase in EIRP of more than 1.5 dB in any direction. This standard, which was unopposed by any of those who responded to the *WTB Public Notice*,³⁰⁹ encompasses the facility changes that have the potential to cause co-channel or adjacent channel interference to other stations operating in the MBS, and thus should be subject to the requirements for application, public notice and FCC approval prior to implementation.

B. The Commission Should Apply Its Policies Regarding Wireless Radio Service Renewals To MDS/ITFS On A Prospective Basis Only.

In Paragraphs 173 through 177 of the *NPRM*, the Commission notes that under its current Rules, renewal applications filed in the MDS and ITFS have been treated disparately from those filed in services subject to the ULS, and proposes to have the wireless services license renewal process, including a policy on late-filed renewals adopted by the Commission in 1999,³¹⁰ apply henceforth to ITFS and MDS.

WCA, NIA and CTN support the proposed changes to the ITFS and MDS license renewal process, so long as it is understood that they will apply only prospectively, and will not be applied retroactively to late-filed renewal applications for licenses that expire prior to the effective date of the new rules.

Until recently, the Commission has consistently (and compassionately) applied a lenient standard to late-filed Part 74 renewals. For ITFS stations, the FCC has granted renewal when ITFS licensees inadvertently permitted their licenses to lapse, without written decisions and

³⁰⁹ See Initial Coalition Proposal at 34.

³¹⁰ *Biennial Regulatory Review – Amendment of Parts 0, 1, 13, 22, 24, 26, 27, 80, 87, 90, 95, 97 and 101 of the Commission’s Rules to Facilitate the Development and Use of the Universal Licensing System in the Wireless Telecommunications Services*, 14 FCC Rcd 11476, 11485-86 (1999).

without sanctions.³¹¹ This is no doubt due in part, at least, to the recognition that ITFS license expiration dates, uniquely from all other media licenses, come up on no particular fixed schedule, and that the Commission has not made a practice of sending notifications of impending license renewal deadlines to ITFS licensees.³¹² It is also clearly a recognition of the public interest in not causing forfeiture of licenses under which educators are providing valuable services to students.

In other Part 74 services, such as FM and TV translators, the Commission has also applied its lenient standard to late-filed renewals. For example, during the FM translator renewal cycle in 1988-1991, the Commission acknowledged that twenty percent of all of the applications received were either filed early or late, but the Commission did not take draconian measures, such as denying the late-filed license renewals.³¹³

Nothing in the *Public Notice* announcing the transfer of ITFS from the Mass Media Bureau to the Wireless Telecommunications Bureau changed applicable law or policies relating

³¹¹ See, e.g., WLX-232 – BRIF-20020517AAC, Expired Dec. 27, 1999, Filed June 25, 2002, Granted: August 12, 2002 (filed 30 months late); WHR-881 - BRIF-20010622AAA, Expired: Dec. 1997, Filed: June 22, 2001, Granted: Sept. 4, 2001 (filed nearly 43 months late); WHR-768 - BRIF-19980109DH, Expired: Oct. 7, 1996, Filed: Jan. 9, 1998, Granted: April 9, 1998 (filed 15 months late); WHR-783 - BRIF-19980109DJ, Expired: Nov. 14, 1996, Filed: Jan. 9, 1998, Granted: April 9, 1998 (filed nearly 14 months late); WHR-779 - BRIF-19980109DI, Expired: Nov. 6, 1996, Filed: Jan. 9, 1998, Granted: April 9, 1998 (filed 14 months late). Copies of these applications can be provided to the Commission, if it is unable to locate them in its own records.

³¹² ITFS licenses come up for renewal on an irregular basis (10 years from date of grant of the application), as compared with their MMDS counterparts (all MMDS license renewals are due on the same day), or other Part 74 licenses (FM and TV translator renewals are staggered on a state-by-state basis). While radio and TV stations, as well as certain wireless services, receive courtesy renewal reminders from the FCC, ITFS and MDS licensees do not.

³¹³ See *Modifying Renewal Dates for Certain Stations Licensed Under Part 74 of the Commission's Rules; and Revising FCC Form 303-S, Application for Renewal of License for Commercial and Noncommercial AM, FM or TV Broadcast Stations, TV and FM Translator Stations, and Low Power TV Stations*, 9 FCC Rcd 6504 (1994).

to ITFS or the appropriate ITFS renewal standard.³¹⁴ Thus, until the Commission adopts new standards applicable to ITFS, it would be inappropriate for the Wireless Telecommunications Bureau to apply its usual license renewal standards (including the 1999 *Policy Statement*) to late-filed ITFS renewal applications.³¹⁵

WCA, NIA and CTN concede that, going forward, the Commission may change its approach to late-filed ITFS stations, and that it makes sense to use the procedures and apply the standards otherwise applicable to the services regulated by the Wireless Telecommunications Bureau. Public interest considerations, however, may thereafter still mandate consideration and grant of late-filed ITFS applications pursuant to the Commission's obligation under the law to consider requests for waiver of the rules and policies in appropriate circumstances.³¹⁶

C. The Commission Should Impose Regulatory And Filing Fees In A Manner Consistent With Congressional Directives And Consistent With Its Approach To Similar Services.

The *NPRM* solicits comment on a variety of issues relating to the imposition of regulatory fees on MDS and ITFS operations, including whether it would be appropriate to subject ITFS applicants and licensees to regulatory and filing fees to the extent that they do not

³¹⁴ See "Radio Services Are Transferred from Mass Media Bureau to Wireless Telecommunications Bureau," *Public Notice*, 17 FCC Rcd. 5077 (2002).

³¹⁵ The *NPRM* also inquires "on the possibility of imposing special performance requirements on ITFS licensees in order to ensure efficient utilization of the spectrum. See *NPRM*, 18 FCC Rcd at 6794. WCA, NIA and CTN can conceive of no reason why the substantial service/safe harbor test that they advocate would be insufficient given that it is all the Commission requires of licensees in other services.

³¹⁶ See *WAIT Radio v. FCC*, 418 F.2d 1153 (D.C. Cir. 1969), *cert. denied*, 409 U.S. 1027 (1972).

fall within an express statutory exemption.³¹⁷ There is no reason to revisit the Commission's previous determination that ITFS licensees are exempt from both regulatory and filing fees.³¹⁸

Statutorily, there is very little leeway to impose fees in any event. Under Section 8(d)(1) of the Communications Act,³¹⁹ application filing fees may not be charged against governmental entities, which (in the form of public school districts, community colleges, public universities and state public broadcasting networks) make up a vast proportion of all ITFS licensees.³²⁰ Under Section 9(h) of the Communications Act,³²¹ regulatory fees may not be charged against governmental entities or nonprofit entities, which includes all ITFS licensees. Thus, statutorily, the only ITFS licensees under the current eligibility rules that could be subject to fees (and then only application fees) are private non-profit entities, such as private schools, private colleges and other non-profit corporations. Given that most ITFS licensees cannot be charged application fees, and private and governmental entities in ITFS provide fundamentally the same service, it would be unfair to impose those fees on private educational entities simply because the law permits it.

With regard to regulatory fees for MDS operations, the Commission should treat MDS in the same manner as WCS. Although WCS licensees have the ability to offer a variety of services

³¹⁷ See *NPRM*, 18 FCC Rcd at 6797.

³¹⁸ See *Establishment of a Fee Collection Program to Implement the Provisions of the Consolidated Omnibus Budget Reconciliation Act of 1985*, 3 FCC Rcd 5987, 5989 (1988) (noting that "there is much to be gained and little to be lost in providing an exemption [from regulatory fees] for ITFS licensees").

³¹⁹ 47 U.S.C. § 158(d)(1).

³²⁰ Based on NIA research undertaken several years ago in connection with the 3G proceeding, nearly 60% of all ITFS licensees are public and private K-12 schools and school districts. They hold nearly 900 ITFS licenses. About 25% of ITFS licensees are colleges and universities who, because they often hold multiple licenses, hold nearly 1/3 of the total licenses. The other licensees (about 16% of the total) are governmental entities, public broadcast stations and non-profit organizations that support instructional activities at accredited educational institutions.

³²¹ 47 U.S.C. § 159(h).

(i.e., flexible use) potentially subject to different regulatory fee categories, the Commission determined that the ability of WCS licensees to offer CMRS should be dispositive for purposes of regulatory fees.³²² Thus, WCS was placed within the CMRS Mobile Service fee category and regulatory fees for these licensees are calculated based on the number of units in operation, rather than on a license-by-license basis.³²³

As noted in Section X, MDS has many of the same characteristics as WCS, including flexible use and the ability to offer CMRS. Because the ability to offer CMRS was the dispositive factor in classifying WCS for regulatory fee purposes, it also should be dispositive for MDS. Subjecting MDS to a different regulatory fee classification would create unnecessary regulatory disparity.³²⁴ Accordingly, MDS should be included in the CMRS Mobile Service fee category.

D. The Commission Should Adopt Its Proposals For The Elimination Of Unnecessary Regulatory Burdens.

Consistent with the approach advocated in the Coalition Proposal, the *NPRM* proposes to eliminate a variety of miscellaneous regulatory burdens on MDS and/or ITFS licensees. WCA, NIA and CTN strongly supports those proposals.

³²² See *Assessment and Collection of Regulatory Fees for Fiscal Year 1998*, MD Docket No. 98-36, *Report and Order*, 13 FCC Rcd 19820, 19877 (1998). The Commission established two CMRS fee categories: mobile service and messaging service. WCS was placed in the mobile service category and the messaging service fee category was limited to narrowband services. See *Assessment and Collection of Regulatory Fees for Fiscal Year 1997*, MD Docket No. 96-186, *Report and Order*, 12 FCC Rcd 17161, 17184-85 (1997).

³²³ See 47 C.F.R. § 1.1152.

³²⁴ See *Implementation of Section 3(n) and 332 of the Communications Act*, GN Docket No. 93-252, *Third Report and Order*, 9 FCC Rcd 7988, 8129 (1994) (noting that “principles of regulatory parity dictate that fees for similar services be equivalent”).

First, the Commission should eliminate the Section 21.911 reports that MDS licensees are currently required to file on an annual basis, as proposed in the *NPRM*.³²⁵ The Commission has correctly concluded that “these reports do not appear to serve any purpose,” as WCA, NIA and CTN demonstrated in their initial filing.³²⁶

Second, the Commission has proposed to afford licensees the flexibility to secure authorizations that will permit them to render common carrier services, non-common carrier services or a combination of the two.³²⁷ Since, as noted in the *NPRM*, that same approach has been adopted for other flexible use services regulated under Part 27,³²⁸ WCA, NIA and CTN advocate its use here. Moreover, in response to the *NPRM*'s inquiry regarding the appropriate procedures for a MDS/ITFS licensee to change its regulatory status, WCA, NIA and CTN submit that Section 27.10(c) should serve as the model.

Third, WCA, NIA and CTN agree with the *NPRM* that “as a matter of fostering regulatory parity and transparency,” common carriers and non-common carriers applying to secure authorizations in the 2.5 GHz band should be subject to the same requirements.³²⁹ However, consistent with the view that MDS/ITFS should be regulated pursuant to Part 27 of the Rules, Sections 27.12, 1.913 and 1.919 should be utilized to implement this policy, rather than Sections 101.7, 1.913 and 1.919 as proposed in the *NPRM*.

³²⁵ See *NPRM*, 18 FCC Rcd at 6806.

³²⁶ See *id.*; Initial Coalition Proposal at 54-55.

³²⁷ See *NPRM*, 18 FCC Rcd at 6796.

³²⁸ See 47 C.F.R. § 27.10.

³²⁹ See *NPRM*, 18 FCC Rcd at 6799.

Fourth, as proposed in the *NRPM*, the Commission should eliminate the requirement that MDS licensees annually file ownership information on Form 430 or letters verifying that there has been no change since prior filings.³³⁰ Instead, the Commission should require MDS applicants to electronically file ownership information on Form 602 upon the occurrence of the events specified in Sections 1.919, 1.948, 1.2112(a) of the Rules. This approach (which limits the filing of ownership information to those times when it is of regulatory significance) has worked well for the other services licensed by the Wireless Telecommunications Bureau, and there is no reason not to apply it to MDS.³³¹

In addition, there were a variety of proposals advanced in the Coalition Proposal for eliminating unnecessary regulatory underbrush that are not specifically addressed in the *NRPM*, including elimination of restrictions on the use of omnidirectional customer equipment antennas,³³² modification of professional installation requirements,³³³ elimination of customer equipment ownership and control requirements,³³⁴ elimination of obsolete MDS filing requirements,³³⁵ repeal of the MDS “one to a market rule”³³⁶ and elimination or modification of

³³⁰ See *NPRM*, 18 FCC Rcd at 6795-96.

³³¹ The Commission has made clear that licensees are not required to submit Form 602 periodically or to keep the information on file current unless a triggering event has occurred. See *Biennial Regulatory Review -- Amendment Parts 0, 1, 13, 22, 24, 26, 27, 80, 87, 90, 95, 97, and 101 of the Commission's Rules to Facilitate the Development and Use of the Universal Licensing System in the Wireless Telecommunications Services*, 13 FCC Rcd 21027, 21062-64 (1998); see also “Wireless Telecommunications Bureau Answers Frequently Asked Questions Concerning Reporting of Ownership Information on FCC Form 602,” *Public Notice*, 14 FCC Rcd 8261, 8262 (1999).

³³² See Initial Coalition Proposal at 31.

³³³ See *id.* at 2.

³³⁴ See *id.* at 51.

³³⁵ See *id.* at 53-54.

³³⁶ See *id.* at 55.

the ITFS “four channel rule.”³³⁷. For the reasons set forth in the Coalition Proposal, WCA, NIA and CTN urge the Commission to adopt those proposals.

XII. THE COMMISSION SHOULD PERMIT ITFS LICENSEES TO BE ELIGIBLE FOR CARS STATION LICENSES.

In addition to the changes in Parts 1 and 27 of the Commission’s Rules discussed above, WCA, NIA and CTN urge the Commission to make a small change to Section 78.13 of the Rules to make clear that ITFS licensees are eligible to apply for and hold Cable Television Relay Service (“CARS”) licenses where such facilities are used to relay content to ITFS stations for transmission. Otherwise, as commercial video systems are transitioned to two-way data systems, existing CARS facilities relied on by ITFS licensees may become unusable and ITFS licensees may find themselves without the ability to relay their programming to their ITFS stations.

Under Section 78.13(d), MDS licensees and wireless system operators leasing MDS or ITFS channel capacity are eligible for CARS licenses. Section 78.13(e) provides that ITFS licensees are also eligible in only certain limited circumstances – where they have held point to point E or F group ITFS licenses that have been displaced pursuant to existing rules governing point to point ITFS operations. Generally, however, absent waiver, ITFS licensees are not eligible for CARS licenses to relay programming to their ITFS stations for transmission.

Many ITFS stations actually rely, however, on CARS facilities, as they “piggy-back” on the CARS stations of their wireless system operators who have licensed and constructed CARS facilities pursuant to Section 78.13(d) to feed their own commercial transmission systems using MDS or excess ITFS capacity. As these wireless operators transition their commercial video

³³⁷ See *id.* at 55-56.

systems to two-way data systems, however, they have no further need for their CARS stations. In many instances, they are willing (or even required by the excess capacity leases) to make the CARS equipment available to the ITFS licensee for continued use. However, the current rules appear to preclude ITFS licensees from assuming those licenses, or applying for licenses of their own.

The result of the transition of services in the 2.5 GHz band combined with the current CARS eligibility limitations, is and will be to force ITFS licensees to acquire and employ facilities in other services (principally, OFS), at considerable expense, when a low-cost solution is readily available in the CARS band. WCA, NIA and CTN can think of no policy justifying exclusion of ITFS licensees from using CARS stations in these circumstances. Therefore, the Commission should revise Section 78.13 (e) to permit any ITFS licensee to be eligible to hold CARS licenses.

XIII. CONCLUSION

Chairman Michael K. Powell recently noted that:

Introducing a third broadband pipe to the home as a competitor to cable modems and digital subscriber lines is among the FCC's highest priorities -- and there is no better candidate than spectrum-based services. Though wireless broadband is available in some markets, this potential pipe now merely trickles. My goal is to foster a regulatory environment in which this trickle can become a rushing torrent, raging over and through obstacles to provide vital competition and reach unserved homes and communities.³³⁸

WCA, NIA and CTN share that goal, and submits that the Commission can best generate the desired "rushing torrent" of wireless broadband services by taking the steps suggested in the Coalition Proposal and above.

³³⁸ Powell, "FCC wireless spadework in '02 to bear fruit in '03," *RCR Wireless News* (March 17, 2003).

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