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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Magalie Roman Salas
Secretary
Federal Communications Commission
1919 M Street, N.W.
Room 222
Washington, D.C. 20554

Re: *Amendment of Parts 21 and 74 To Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees To Engage In Fixed Two-Way Transmissions -- MM Docket No. 97-217 and RM-9060: EX PARTE COMMUNICATION*

Dear Ms. Salas:

I am writing on behalf of the parties listed on Appendix A to the Petition for Rulemaking (the "Petition")[1/] that commenced this proceeding (collectively, the "Petitioners") to advise the Commission of recent developments that are material to issues before the Commission and to respond to certain arguments advanced for the first time in reply comments submitted in connection with the *Notice of Proposed Rulemaking* ("*NPRM*").

The Emission Mask. When the Petitioners filed the Petition, they proposed an exception to the emission mask so that the out-of-band power for discrete spurious signals above the upper and below the lower channel edge could be attenuated by just 40 dB, provided that such signals occur no more frequently than once in any 10 MHz within 50 MHz of a channel edge and none occur more than 50 MHz from a channel edge.[2/] That exception was proposed in response to specific technical concerns expressed by the downconverter manufacturing community. The rules proposed in the *NPRM* included that

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[1/] *See* Petition for Rulemaking, File No. RM-9060 (filed March 14, 1997) [hereinafter cited as "Petition"].

[2/] *See id.*, Appendix B, at 13 (proposed § 21.908(c)), 22 (proposed §21.909(j)), 43 (proposed § 74.936(d)), 53 (proposed §74.939(i)).

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exception. In light of concerns regarding the exception that were expressed in response to the *NPRM*, the Petitioners have recently re-canvassed the downconverter manufacturers and have been advised that as a result of technological advances in the year since the Petition was filed, the proposed exception to the emission mask for discrete spurious signals is no longer necessary. Thus, the Petitioners suggest that it be eliminated when final rules are adopted so as to provide a more interference-free operating environment.

Response Station Power Limits. In their comments in response to the *NPRM*, the Petitioners proposed that response station transmitters be limited to a transmitter output power of 2 watts and an EIRP of 33 dBW.[3/] Attachment B to those comments is an analysis prepared by S. Merrill Weiss establishing that those power levels are more appropriate than the 18 dBW EIRP limitation proposed in the *NPRM.* Only one commenting party has disagreed with that proposal. In its reply comments, Catholic Television Network ("CTN") took issue with Mr. Weiss' analysis, claiming that he erred in assuming the use of 10 dBi gain reception antennas at response station hubs when such hubs could "equally well" employ 20 dBi antennas.[4/] In fact, CTN is wrong – the performance of two-way systems could be significantly compromised if 20 dBi reception antennas were required to be employed.

Hub receiving antennas will be selected by system designers based on the azimuth and elevation patterns needed to provide adequate coverage and on projected traffic requirements. Azimuth pattern shapes will be driven by the need for wide area coverage, the number of sectors needed to achieve the required data capacity, and the necessity to keep the physical dimensions of hub antennas within manageable proportions. In general, omnidirectional coverage will be required. While that omnidirectional coverage will often be provided via a sectorized antenna system, tower loading and other considerations impose practical limits on the number of antennas that can collectively comprise a response station hub antenna system. Antennas with higher horizontal gains necessarily have narrower beamwidths, and it may be physically impossible to mount a sufficient number of antennas with high horizontal gains at a hub location to provide the necessary omnidirectional coverage.

[3/] *See* Comments of Petitioners, MM Docket No. 97-217, at 55-57 (filed Jan. 8, 1998)[hereinafter cited as "Petitioners Comments"].

[4/] *See* Reply Comments of CTN, MM Docket No. 97-217, Joint Engineering Statement, at ¶10 (filed Feb. 9, 1998)[hereinafter cited as "CTN Reply Comments"].

Antenna gain will have to result from narrowing the vertical beamwidth. That, however, presents its own practical problems. Service demands will dictate that most response station hubs employ antennas with broad elevation patterns. Antennas with broad vertical beamwidth necessarily have relatively low gains. Unlike the result when antennas with narrow vertical beamwidths are deployed, antennas with broad beamwidths will permit the hub to receive signal levels from response transmitters located at various distances from the hub that are relatively independent of elevation pattern variations, thus promoting spectral and temporal efficiency of the system. In addition, when broad beamwidths are deployed, signal levels will not vary with tower sway, as happens when antennas with narrow vertical beamwidth are used.

In short, given both the performance goals for response station hub receiving antennas and the nature of antennas themselves, the value of 10 dBi selected by Mr. Weiss for his analysis clearly is a reasonable approximation of the hub antenna gains likely to be realized in the field.

Protection of Response Station Hubs. In their comments in response to the *NPRM*, the Petitioners proposed a new approach to the protection of response station hubs designed to address concerns that the approach advanced in the Petition was unduly protective.[5] Once again, only CTN finds fault with the Petitioners.

In its reply comments, CTN appears to concede the merits of Petitioners' proposal to use power spectral density as a means for determining the level of interference protection to be afforded to response station hubs when the interfering signal is a uniform density digital signal. However, CTN contends that the Petitioners' proposal to treat analog signals as having a power spectral density over the 6 MHz analog channel bandwidth equivalent to the analog station's peak visual carrier power flux density, "would wildly 'stack the deck' in a Response Station Hub operator's favor."[6] In fact, just the opposite is true.

Affording identical treatment to analog signals and digital signals having the same power levels, despite the fact that the former is measured at the peak of sync and the latter is measured averaged across the channel, continues the practice established by the *Digital Declaratory Ruling* of licensing just one power level for a station and calculating

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[5] *See* Petitioners Comments, at 65-71.

[6] *See* CTN Reply Comments, Engineering Statement, at ¶4.

interference the same way for both analog and digital signals.[7] Contrary to CTN's contention, in the case of protecting response station hubs, this works to the decided benefit of a neighboring analog facility and to the severe disadvantage of the response station hub operator.

Because of the energy dispersal and the uniform power spectral density requirements associated with digital transmissions, a digital newcomer that comports with the proposed interference protection rules will fully protect a previously-proposed response station hub from interference. However, if the newcomer employs analog technology, it will cause interference to the previously proposed response station hub even if the newcomer complies with the proposed response station hub interference protection rules. This occurs because most of the power of an analog signal is concentrated in a few carriers, resulting in a higher spectral density at those points than would occur if digital modulation were employed. Since the proposed rule assumes that the power is spread uniformly, the practical impact will be that portions of the channel used for response stations likely will be unusable by the response station hub operator due to analog interference. Instead, the response station hub operator may have to subchannelize in such a way that the regions of the channel surrounding the carriers of the interfering analog station are not used. While this approach is spectrally inefficient, the Petitioners have proposed it as part of their continuing effort to balance the benefits of interference protection against the preclusive effects inherent in any system of interference protection. In this case, the Petitioners approach preserves for neighboring licensees the maximum flexibility to modify and upgrade their existing analog operations as well as to convert to digital or two-way operation.

In short, CTN has it backwards. The rules proposed by the Petitioners do not disadvantage analog licensees, but rather disadvantage response station hub licensees in order to provide analog licensees the maximum flexibility to make facility modifications in the future.

ITFS Protection. The reply comments evidence for the first time support within the ITFS community for the provision of protected service areas ("PSAs") to all ITFS

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[7] *Request for Declaratory Ruling on the Use of Digital Modulation by Multipoint Distribution Service and Instructional Television Fixed Service Stations,* 11 FCC Rcd 18,839, 18,855-56 (1996).

licensees regardless of whether they lease excess capacity for commercial operations. The Petitioners do not object to the granting of a PSA to all ITFS licensees.[8]

Nor do the Petitioners necessarily object to a policy that would require the licensee of any response station to cure interference from block downconverter overload to any ITFS or MDS receive site within a PSA, even if the receive site is installed after the response station is installed. In their comments, the Petitioners proposed that the licensee of a response station should only be required to cure interference to a receive site installed prior to the response station. The Petitioners did so in the belief that such an approach would minimize the financial and operational burdens on ITFS licensees that choose to install response stations. A requirement that the installer of a response station forever bear the expense of curing interference to any receive site installed at any time in the future may well limit the desire of some to install response stations (particularly where the cessation of operations of a response station may be required if interference cannot be cured). The Petitioners reasoned that licensees, and particularly ITFS licensees, would prefer to have their obligation to cure block downconverter interference limited to the set of receive sites installed at the time the response station is installed. Certain ITFS interests, however, have taken the Petitioners to task for this proposal, claiming that the Petitioners approach "freezes" their existing facilities in place and precludes expansion. The Petitioners believe their rhetoric is overblown and question whether they have fully thought through the ramifications of their comments. Nonetheless, the Petitioners will not object if the Commission chooses to require MDS and ITFS licensees of two-way systems to incur mitigation expenses or cease operating response stations in those rare cases where necessary to protect from downconverter overload any receive site within an MDS or ITFS PSA established prior to the filing of the response station hub application, regardless of when that receive site is actually installed *vis a vis* the response station.

Most importantly, regardless of how the Commission decides this issue, the Commission should stress that in the rare case of a downconverter overload interference dispute, both parties are required to employ in good faith the available interference mitigation techniques outlined by the Petitioners in their comments. As the Petitioners have already established, many of the mitigation techniques can be applied at little or no additional expense, if the licensee serving the receive site suffering interference

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[8] If the Commission is disposed toward awarding ITFS licensees a PSA regardless of whether they lease excess capacity for commercial purposes, the Commission should minimize paperwork burdens on both licensees and the staff by automatically awarding a PSA to all ITFS licensees and applicants effective prior to the opening of the filing window proposed by the Petitioners.

cooperates. For example, the solution may be as simple as moving the receive antenna to a different location on a school's roof to achieve antenna offset.[9] That sort of cooperation should be a given here, with the only issues up for debate being: (i) whether to allocate to the licensee of an installed response station all costs associated with mitigating interference to a later-installed receive site, or whether to allocate some or all of those costs to the license of the receive site; and (ii) whether, in those extremely rare cases where a response station can only cure interference by ceasing operations, a response station will be required to shut down to protect a receive site installed after the response station. Again, while the Petitioners believe that their approach is preferable because it is consistent with the Commission's historic "first in" approach to interference protection, the Petitioners will not object to adoption of any of the possible resolutions to these issues, so long as all licensees are treated fairly and consistently.

CTN's Latest Proposal For Restricting The Channels Available For Response Stations. For the third time in the last four months, CTN has advanced a new plan under which the channels available for response station use would be restricted to particular channels and a guardband would be required between any channel used for response stations and any channel used for the transmission of ITFS programming.[10] And, for the third time, CTN has proposed a solution that is far worse than the disease.

Before turning to the specifics of CTN's proposal, the Petitioners must correct several misconceptions advanced by CTN's reply comments.

- CTN claims that "no party disputes" CTN's assertion that the potential for overload of the receive site downconverter poses "a serious threat of interference."[11] In fact, not only have the Petitioners consistently disputed CTN's contentions, but so have

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[9] *See* Petitioners Comments, at 94-95.

[10] In a strange shift in position, CTN now proposes that the "guardband" could be used for commercial downstream transmissions, just not for the downstream transmissions of ITFS programming. In response, the Petitioners can only note that if response stations will interfere with adjacent channel downstream ITFS transmissions, they will interfere with adjacent channel downstream commercial transmissions. Whether educational or commercial, the content of the adjacent channel transmission is irrelevant. CTN cannot have it both ways.

[11] CTN Reply Comments, at 1-2.

CTN's brethren in the ITFS community.[12] As the long list of sophisticated ITFS licensees represented by Dow, Lohnes and Albertson made clear in their comments, "[c]ompetent engineers associated with the ITFS Parties . . . believe that incidents of brute force overload, if they happen, will be isolated and can be cured with appropriate technical solutions."[13]

- CTN wrongly contends that the Petitioners' approach to downconverter overload is contrary to the Commission's long-standing principle that a newcomer station is obligated to protect existing stations from interference.[14] In fact, the Petitioners have stated over and over that a response station must protect receive sites from downconverter overload on those rare occasions when it does materialize, or else cease operating. In so doing, the Petitioners have gone much further than WCS licensees are required to go. WCS licensees can cause interference to any ITFS receive site installed after August 20, 1998 and, with respect to ITFS receive sites installed prior to that date, can interfere under certain circumstances prior to February 20, 2002 and under any circumstances thereafter.[15] The WCS interference protection rules effectively require the ITFS licensee to install improved downconverters and otherwise employ available downconverter overload mitigation techniques at its own expense in these cases — a far cry from the more ITFS-friendly proposals advanced by the Petitioners.

- CTN would have the Commission believe that the Petitioners' analysis of the potential for downconverter overload is somehow flawed because while omni-directional "whip" antennas could be deployed, the documentation presented by the Petitioners generally assumes that response stations will employ an antenna with the 20 dBi gain of the standard reference antenna set forth in Section 21.902(f)(3)

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[12] *See* Reply Comments of Region IV Educational Service Center, *et al*, MM Docket NO. 97-217, at 7-8 (filed Feb. 9, 1998); Comments of Alliance for Higher Education, *et al*, MM Docket No. 97-217, at 6 (filed Jan . 8, 1998)[hereinafter cited as "DL&A ITFS Comments"]; Joint Reply Comments of Asheville-Buncombe Technical Community College, *et al*, MM Docket No. 97-217, at 3 (filed Feb. 9, 1998).

[13] DL&A ITFS Comments, at 6.

[14] *See* CTN Comments, at 4.

[15] 47 C.F.R. §27.58(a).

of the Rules.[16] At the outset, CTN conveniently ignores that it was CTN that first presented analyses assuming the use of a 20 dBi gain antenna at the response station.[17] To the extent that the Petitioners have presented analyses that likewise employed the 20 dBi gain reference antenna, it was so the Commission could compare "apples with apples." Moreover, CTN forgets that the Petitioners have presented the Commission with analyses of the potential for overload assuming not just a standard antenna, but also five other antennas with differing characteristics.[18] Based on these analyses, the Petitioners have presented the Commission with uncontroverted evidence that "[n]arrowing the beamwidth and reducing the magnitude of the sidelobes of the upstream transmit, downstream receive or both antennas (and thus increasing the antenna discrimination between the sites) will reduce the potential for overload.[19] And, finally, CTN ignores that the Petitioners contemplate that omnidirectional antennas will not be used by response stations. CTN appears to forget that the drafts of Sections 21.2 and 21.903(a) of the Rules proposed in the Petition deleted the phrase "(usually in an omnidirectional pattern)" specifically because "a substantial number of MDS booster stations and <u>all</u> MDS response stations will employ directional transmission antennas for frequency reuse and spectral efficiency."[20]

Turning to CTN's latest scheme for restricting the channels that can be used for response stations, it is clear that CTN continues to suffer the same misconception that has driven its two prior, now-abandoned approaches – the misconception that ITFS downstream transmissions must be separated by at least 6 MHz from channels used for response stations.

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[16] CTN Comments, Engineering Statement, at ¶1.

[17] *See* Request of CTN for Supplemental Comment Period and Extension of Time, MM Docket No. 97-217, Engineering Statement, at ¶3 (filed Nov. 25, 1997).

[18] *See* Petitioners Comments, at 95-6.

[19] *Id.* at 95.

[20] Petition, Attachment B, at 2 (emphasis added). Of course, even were a response station to employ an omnidirectional transmitting antenna, its absolute obligation to protect ITFS receive sites from interference caused by block downconverter overload would still be in effect. Thus, the type of antenna employed at a response station has absolutely no bearing on whether nearby MDS and ITFS receive sites are entitled to interference protection.

CTN's latest proposal would now permit 2.5 GHz response station use in only two non-contiguous bands (one comprising ITFS channels A4, B4, C1, D1; and the other comprising MDS channels E4 and F4, ITFS channel G1 and MDS channel H1), but only if there are no ITFS transmissions on an adjacent channel. The flaws in this plan are patent. Indeed, many of the arguments previously advanced by the Petitioners against CTN's earlier proposals remain valid here, and in the interest of brevity need not be repeated.

Like CTN's other plans, this latest approach would artificially limit the amount and location of spectrum that could be devoted to response station use. One could argue that the eight channels CTN would make available, coupled with MDS 1 and 2/2A, should be adequate to meet the demand for response station capacity. Depending upon the demand for response capabilities (and particularly depending upon the degree to which the ITFS licensees in a market desire dedicated capacity for high speed, high bandwidth applications), that may or may not be true. It is certainly conceivable that more than 10 channels will be required for return path applications, depending upon commercial and educational demand. Moreover CTN again wrongly assumes that the wireless cable operator will have access to all of the designated channels in a given market when, as CTN well knows, not all of the channels necessarily are owned by or leased to the wireless cable operator in every market. In addition, traditional co-channel and adjacent channel interference protection considerations may make it impossible for some or all of the channels designated by CTN to be "turned around" for response station use. Thus, as a practical matter, adoption of CTN's proposed plan could well result in insufficient response station capacity being available in a given market to meet commercial and educational needs.

Compounding the problem is CTN's insistence that no channel be used for response stations if it is adjacent to a channel employed for ITFS transmissions. Of all the channels specified by CTN for response station use, only channel E4 is not adjacent to an ITFS channel. Thus, only the licensee of MDS channel E4 could operate response stations absent the conversion of a neighboring ITFS facility to full time commercial use. Despite the well-documented insistence of the ITFS community for the ability to use their own channels for return paths, under CTN's proposal, no ITFS licensee could deploy a two-way system either for itself or for a lessee unless a neighboring ITFS licensee agreed to devote adjacent channels solely to commercial transmissions.[21/] Moreover, even if the

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[21/] Further exacerbating the problem is CTN's objection to the Petitioners' proposal for Commission-supervised retuning of ITFS stations in order to accommodate the introduction

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neighboring licensee is prepared to devote adjacent channels solely for commercial use and even if there is a wireless cable operator desiring to use such channels commercially, CTN's proposal limits each ITFS licensee to only one channel for return paths. That may prove inadequate, particularly for those ITFS licensees that intend to use two-way capabilities for symmetrical services such as video conferencing.

Finally, CTN's efforts to justify its proposed rules for the 125 kHz channels falls flat. The Petitioners have previously noted that CTN's position on return paths is patently inconsistent with its proposed approach to the 6 MHz channels, since CTN proposes to allow return path use of the 125 kHz channels despite the fact that they are immediately adjacent to ITFS channel G4. If CTN is correct in claiming that a 6 MHz guardband is required between upstream and downstream transmissions (a proposition the Petitioners reject), logic would dictate that ITFS channel G4 could not be employed for ITFS use if any of the 125 kHz channels were used for return paths. Rather than concede that its approach is flawed, CTN attempts to distract the Commission with arguments that miss the point. For example, CTN attempts to distinguish 125 kHz channel operations on the grounds that today they are limited to just 250 milliwatts absent a special showing of need. Yet, CTN ignores that neither it nor any other party to this proceeding has opposed a significant increase in the power at which 125 kHz response stations can operate. Moreover, response stations operating at such low power will be more susceptible to interference from operations on ITFS channel G4, so the deployment of low power response station on the 125 kHz channels will perforce tend to preclude the ITFS licensee of channel G4 from making modifications in the future, assuming for purposes of argument only that CTN is correct in its positions. Of course, the Petitioners do not believe that CTN is correct and instead believe that there is no reason for a mandatory 6 MHz guardband, but the illogic of CTN's position here is telling.[22/]

[21/] (...continued)
of advanced technologies. Such retuning is an essential tool for promoting advanced technologies, for it will deny any licensee the ability to unreasonably frustrate the deployment of new services.

[22/] CTN also makes the bizarre contention that since "ITFS talkback transmitters are always oriented by the licensee," a response station operating on a 125 kHz channel could never be oriented towards a G Group receive site. *See* CTN Reply Comments, at 20. Given that CTN suggests that non-ITFS licensees will deliberately aim response stations at receive sites of other licensees, it is passing strange that CTN ignores the possibility that the licensees of the A, B, C, or D Group ITFS channels might aim their response stations at the receive antennas
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The Use of the Noise Floor in Analyzing Potential Interference. In their comments, the Petitioners proposed that where a terrain sensitive propagation model is used, traditional D/U analyses should not be required with respect to those portions of adjacent market PSAs where the desired signal is below the noise floor. Although CTN fundamentally agrees with the Petitioners' approach, CTN proposes in its reply comments that rather than use the noise floor as the cut-off threshold for D/U analyses, the undesired signal should not be considered an interference threat when the received carrier level ("RCL") of the desired signal is less than -76 dBm or the RCL of the undesired signal is less than -108 dBm where the carrier in question is a conventional NTSC analog signal.

While the Petitioners do not disagree with CTN's analysis as it relates to traditional NTSC analog signals, the Petitioners' proposal to employ the noise floor stems from the fact that digital technology allows the productive use of signals that are substantially closer to the noise floor. For example, even with existing technology a digital video signal could easily be utilized at -82 dBm with 64 QAM modulation and forward error correction. Use of QPSK modulation could allow the desired levels to fall to -94 dBm. In each case, however, it is the carrier-to-noise ratio requirement of the particular signal that determines the minimum usable signal level, and that minimum value is calculated from the noise floor. As digital technology evolves, it is conceivable that signals even closer to the noise floor will be usable. Therefore, to ignore for purposes of interference calculations desired signals with an RCL of less than -76 dBm is unreasonable, for it would subject digital signals that are currently protected to the potential for interference.

Rather than adopt different cut-off thresholds for different modulation techniques and require that those thresholds be constantly revisited as technology improves, the Petitioners have proposed a single cut-off, the noise floor (which is an absolute), that can be employed regardless of modulation technique. While this may prove slightly more protective of existing systems (and particularly existing analog NTSC facilities), that cost is readily outweighed by the ease of application of a single rule that applies in all cases.

De Minimis Exceptions To The Interference Protection Rules. In its initial comments, Wireless One of North Carolina, L.L.C. ("WONC") proposed that the Commission afford exceptions to its interference protection requirements when the predicted interference is *de minimis*. As contemplated by WONC, the Commission would apply this exception on a case-by-case basis, examining market-specific factors such as the percentage of the geographic service area affected by the interference, the percentage of

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[22] (...continued)
of a non-collocated G Group station.

population affected by the interference and the specific engineering design.[23] The Petitioners support this approach, which appears to comport with current policy.[24] History has shown that in some cases strict application of the Commission's interference protection rules has prevented the inauguration of new services despite the fact that the area of predicted interference is unpopulated. A *de minimis* exception is a viable approach to avoiding such unfortunate results.

However, the Petitioners must disagree with a suggestion advanced by BellSouth Corporation that the *de minimis* exception apply wherever the interference amounts to less than 3% of the affected PSA.[25] Application of such a "hard and fast" rule would be inappropriate where, for example, the population is centered in a small area and interference within that area, while amounting to less than 3% of the area of the PSA, would impact a far larger percentage of the population. While interference over 3% of a PSA may well be *de minimis* in some cases, additional factors must be considered in order to assure that incumbents are provided appropriate protection against *de minimis* claims. The Petitioners believe that further study is required before specific guidelines to govern a *de minimis* exception can be developed.

Finally, the Petitioners believe that where an applicant proposes to take advantage of the *de minimis* exception, it should not be entitled to the benefit of an automatic grant of its application. The Petitioners assume that if a *de minimis* exception is granted, the applicant only will be required to cure interference that either occurs in areas outside of those predicted or occurs at levels in excess of those predicted. Since the exception depends upon an analysis of the potential impact of the interference and since the applicant will not be required to cure all interference that ultimately is caused by the proposed facility, the Petitioners believe it would be inappropriate to grant any application that invokes the exception without prior staff review of the merits of the exception request.

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[23] *See* Comments of Wireless One of North Carolina, L.L.C., MM Docket No. 97-217, at 5 (filed Jan. 8, 1998).

[24] *See NPRM*, at ¶ 44, *citing Amendment of Parts 21, 74 and 94 of the Commission's Rules and Regulations with regard to the technical requirements applicable to the Multipoint Distribution Service, the Instructional Fixed Television Service and the Private Operational-Fixed Microwave Service (OFS)*, 98 F.C.C.2d 68, 93 (1984).

[25] *See* Reply Comments of BellSouth Corp., MM Docket No. 97-217, at 21-22 (filed Feb. 9, 1998).

In conclusion, the Petitioners note that just last week, Chairman Kennard announced seven principles for the Commission to follow in increasing the availability of bandwidth for American consumers.[26] Application of those principles in this proceeding mandates adoption of the proposals advanced in the Petition and in the Petitioners' comments and reply comments in response to the *NPRM*. Those proposals are designed to promote the competitive provision of high-capacity bandwidth in a manner that benefits not only large commercial users, but also residential customers and America's educational community. Moreover, those proposed rules pass muster under what is perhaps the most important of the seven guideposts – common sense. The rules have been designed to address the "real world" problems faced by wireless cable operators, MDS and ITFS licensees and the Commission's own staff in a manner that will promote the earliest possible deployment of advanced technologies, while still protecting incumbents from interference. While it is inevitable that there will be a few naysayers whenever dramatic regulatory changes are proposed, the Petitioners' proposals have drawn strong support from the vast majority of wireless cable operators and ITFS licensees participating in this proceeding. Their rapid adoption and implementation will advance the public interest.

Respectfully submitted,

Paul J. Sinderbrand

Counsel to the Petitioners

cc: Hon. William E. Kennard
Hon Susan Ness
Hon. Harold Furchtgott-Roth
Hon. Michael K. Powell
Hon. Gloria Tristani
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Joseph M. Johnson
Keith Larson
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[26] "Chairman William E. Kennard Receives Alliance for Public Technology Pioneer Award; Outlines Guidelines for Bandwidth," *News Release* (rel. Feb. 27, 1998).