Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Amendment of Parts 21 and 74 To Enable	)	MM Docket No. 97-217
Multipoint Distribution Service and	)	
Instructional Fixed Television Fixed	)	File No. RM-9060
Service Licensees To Engage In Fixed	)	
Two-Way Transmissions	)	

REPLY

QUALCOMM Incorporated ("QUALCOMM") hereby submits pursuant to Section 1.429(g) of the Commission's Rules its reply to the filings made by other parties in response to QUALCOMM's petition for reconsideration (the "QUALCOMM Petition") of the Report and Order (the "Order") in this proceeding.[1/] For the reasons set forth below, QUALCOMM submits that the record overwhelmingly supports revision of the rules adopted in the Order as proposed in the QUALCOMM Petition to permit the retail distribution of low-power response stations that can be purchased and installed by consumers without unnecessary regulatory burden or delay.

I. INTRODUCTION

The QUALCOMM Petition demonstrated that in order to accomplish the goal of promoting such retail distribution of readily-installed low-power response station, the Commission would need to: (1) modify the rules designed to protect against block

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[1/] Amendment of Parts 21 and 74 to Enable Multipoint Distribution Service And Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions, FCC 98-231, MM Docket No. 97-217 (rel. Sept. 25, 1998) [hereinafter cited as "Order"].

downconverter overload to permit response stations operating at an EIRP no greater than -6 dBW to be installed by the consumer and without advance notice to the licensee of any nearby ITFS receive site;[2/] (2) eliminate the provision of Section 21.906(d) that requires MDS receive antennas to be directional;[3/] and (3) modify Section 74.937(b) to conform to the provision of newly-adopted Section 74.939(g) to the effect that a response station can use a non-directive transmission antenna so long as the interference analyses supporting the associated response hub application took that pattern into account.[4/] The record overwhelmingly supports adoption of these proposed rule revisions.

II. DISCUSSION.

Of the ten oppositions filed to the various petitions for reconsideration of the Order, not one opposed either elimination of the provision of Section 21.906(d) that requires MDS receive antennas to be directional or modification of Section 74.937(b) to clarify that ITFS response stations may utilize non-directive transmission antennas.[5/] Thus, for the reasons

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[2/] See Petition of QUALCOMM for Reconsideration, MM Docket No. 97-217, at 12-13 (filed Dec. 28, 1998)[hereinafter cited as "QUALCOMM Petition"].

[3/] See id. at 15-19.

[4/] See id. at 19-20.

[5/] Catholic Television Network ("CTN") did express a concern that the use of non-directional receive antennas not "alter the basis for protection of MDS and ITFS protected service areas." Response of Catholic Television Network To Petitions For Reconsideration, MM Docket No. 97-217, at 15 (filed Feb. 4, 1999)[hereinafter cited as "CTN Response"]. However, as CTN appears to recognize, QUALCOMM has not proposed any change to the provisions of Sections 21.902(f) and 74.903(a) of the Rules which require that interference analyses be conducted assuming the use of a directive reference antenna oriented towards the transmission site. Thus, there is no basis for the concerns expressed by CTN.

set forth in the QUALCOMM Petition, those revisions should be adopted on reconsideration.

Moreover, QUALCOMM's proposal for modification of the advance notification and professional installation rules to permit the retail distribution and ready deployment of low-power, consumer-installed response stations drew unanimous support, although one small group of Instructional Television Fixed Service ("ITFS") licensees proposed modifications to the QUALCOMM proposal that, as a practical matter, would substantially undercut the use of a retail distribution model.

Although not all of the parties agree on all of the particulars, a consensus has developed that the Commission should alter its rules to permit the deployment of response stations without advance notice to the licensee of nearby registered ITFS receive sites and without professional installation where such deployment can be accomplished without undue risk of interference.[6/] Indeed, it is fair to say that the debate now centers on how to craft more liberal rules allowing for the rapid deployment of two classes of lower-power response stations – those operating at no more than -6 dBW EIRP, and those operating with an EIRP of more than -6 dBW, but no more than +18 dBW.

The proposals pending before the Commission reflect the fundamental differences between these two classes of response stations. The coalition of over 110 Multipoint

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[6/] See, e.g., Petition of ADC Telecommunications, et al. for Reconsideration, MM Docket No. 97-217, at 3-17 (filed Dec. 28, 1998)[hereinafter cited as "Petitioners Petition"]; Comments of Cisco Systems in Support of Reconsideration, MM Docket No. 97-217, at 5-6 (filed Feb. 4, 1999); Consolidated Opposition of Instructional Telecommunications Foundation, Inc., MM Docket No. 97-217, at 11 (filed Feb. 2, 1999)[hereinafter cited as "ITF Consolidated Opposition"]; CTN Response, at 13-15.

Distribution Service ("MDS") and ITFS licensees, wireless cable system operators, equipment vendors and consulting engineers that submitted the original petition for rulemaking in this docket (the "Petitioners") demonstrated that, so long as new downconverters meeting certain criteria are installed at all ITFS receive sites within 1960 feet, response stations transmitting at no more than +18 dBW EIRP can be deployed without a realistic threat of interference. Thus, they have proposed that the Commission eliminate the advance notice and professional installation requirements where the response station hub licensee has completed the downconverter upgrades.[7/]

The QUALCOMM Petition took a similar approach to that of the Petitioners, but with one significant difference. While the focus of the Petitioners was on response stations operating with EIRPs as high as +18 dBW, QUALCOMM has focused on response stations operating at no more than -6 dBW, less than 1/250 the power. Thus, QUALCOMM was able to demonstrate that, even without replacing existing downconverters, a response station operating at -6 dBW would not cause interference even when installed as close to an ITFS receive site as is likely to occur.[8/]

[7/] See Petitioners Petition, at 11-14.

[8/] See QUALCOMM Petition, at 12-13. The analysis presented by QUALCOMM was based on the "victim" receive site using a California Amplifier Model 130001 32 dB gain 31-channel downconverter -- the model that was generally agreed upon during this proceeding as representative of the existing downconverters deployed by ITFS licensees. Moreover, for purposes of the analysis, QUALCOMM assumed a worst case scenario -- that the response station and the registered ITFS receive site are co-polarized, that the antennas of the two facilities are mounted at the same height, and that there is free space between the two antennas (i.e., that there are no walls, foliage, terrain, or other obstructions limiting the strength of the response station signal). Even with those extreme assumptions, a response station operating at -6 dBW 100 feet from an ITFS receive site

That response stations operating at no more than -6 dBW can be safely deployed without any change in the downconverters installed at ITFS receive sites was agreed to by CTN, which advised the Commission that "CTN agrees that devices operating in this power range pose an insignificant threat of brute-force overload, and supports . . . an exemption [from the advance notification and professional installation requirements.]"[9/] Along similar lines, Instructional Telecommunications Foundation, Inc. ("ITF") noted that because QUALCOMM's proposed equipment "will operate at such low power power (-6 dBw or less), we believe that it is extremely unlikely to cause problems due to brute force overload, and that, indeed, its potential for causing interference is minimal in general."[10/]

The only other submission that addressed the QUALCOMM Petition was filed by a small group of ITFS licensees from the Dallas-Ft. Worth area (the "Dallas ITFS Licensees"). The Dallas ITFS Licensees expressed agreement with QUALCOMM, CTN and ITF that response stations operating at no more than -6 dBW do not need to be

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will not suffer interference. See id. Since most ITFS receive sites are located at schools or other large structures that tend to be located away from other buildings, it will be the rare case that a response station will be located within 100 feet of an ITFS receive site (and, the even more rare case where the response station is co-polarized, operating with an antenna at the same height as the ITFS receive site, and without any intervening structure or foliage to provide attenuation). Of course, in the highly unlikely event that an installation is made closer to an ITFS receive site and other "worst case" criteria are present (e.g. the two systems are co-polarized, the antennas are at the same height, and there is no intervening blockage), the response station hub licensee remains obligated under Sections 21.909(g)(8) and 74.939(g)(8) to cure any interference caused by downconverter overload.

[9/] CTN Petition, at 15.

[10/] ITF Consolidated Opposition, at 11.

professionally installed.[11/] However, the Dallas ITFS Licensees object to the installation of these low-power response stations within 150 feet of a registered ITFS receive site, unless either 20 days advance notice is given or the response station hub licensee upgrades the ITFS downconverter to the type of model the Petitioners have proposed be used in conjunction with response stations operating up to +18 dBW EIRP.[12/]

There is no technical or policy basis for adopting the restrictions the Dallas ITFS Licensees propose. It appears that the Dallas ITFS Licensees' proposal is based upon a fundamental misunderstanding of the differences between the Petitioners' proposal and that advanced by QUALCOMM. As noted above, QUALCOMM has demonstrated, and the Dallas ITFS Licensees have not even attempted to refute, that response stations operating at no more than -6 dBW EIRP can be safely deployed without advance notice even where an ITFS receive site with an existing downconverter is located as close to the response station as is likely to occur.[13/] However, because existing downconverters could

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[11/] See Joint Comments of Dallas County Community College District, et al, MM Docket No. 97-217, at 11 (filed Feb. 4, 1999)[hereinafter cited as "Dallas ITFS Comments"].

[12/] See id. at 4-5.

[13/] See supra note 8. While the Dallas ITFS Licensees express concern that "theoretically the response antenna could be located right next to the ITFS receive site . . .," in the real world schools and other buildings that serve as ITFS receive sites tend to be sufficiently surrounded by streets, parking lots, playgrounds and/or other open spaces that the prospects for a response station to be located within 50-100 feet of the antenna of a registered ITFS receive site is slim. Add that in the real world there is likely to be additional attenuation (not considered by QUALCOMM or the Petitioners in their interference analyses), such as walls or other man-made blockage, foliage, vertical antenna pattern attenuation, cross-polarization discrimination, etc., and the risk of interference from response stations located close to ITFS receive sites moves even closer

suffer overload under worst-case conditions if a response station operated nearby at +18 dBW (which is more than 250 times the power of a response station operating at -6 dBW), the Petitioners recognized the need to propose rules under which installations at up to +18 dBW EIRP would require a downconverter upgrade in order to avoid the advance notification and professional installation obligations. In other words, while interference is not a legitimate concern when response stations are limited to -6 dBW, even with existing downconverters, the potential for overload interference increases at higher powers, necessitating the downconverter upgrades contemplated by the Petitioners as a quid pro quo for installing response stations operating at up to +18 dBW.

III. CONCLUSION.

In conclusion, given the remote risk of such interference from a response station operating at no more than -6 dBW, QUALCOMM urges the Commission: (i) to define a new class of response station called "low power response station" which would apply to any response station operating with an omnidirectional antenna and transmitting with an EIRP of no more than -6 dBW; (ii) to modify Sections 21.909(k) and 74.939(m) to eliminate the requirement that a low power response station be professionally installed and subject to detailed record-keeping requirements; (iii) to modify Sections 21.909(n) and 74.939(p) to eliminate the requirement that the licensee of a registered ITFS receive site located within 1960 feet must be given 20 days advance notice before the installation of a low power

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to nil. But, of course, it bears repeating that in the highly unlikely event that interference does occur, the response station hub licensee remains obligated under Sections 21.909(g)(8) and 74.939(g)(8) to cure any interference caused by downconverter overload.

response station; (iv) eliminate the requirement of Section 21.906(d) that MDS receive antennas be directional; and (v) amend Section 74.937(b) to eliminate any question regarding the propriety of non-directive ITFS response station transmission antennas.

Respectfully submitted,

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February 18, 1999

CERTIFICATE OF SERVICE

I, Cathi R. Huber, certify that the foregoing Reply was served this 18th day of February, 1999, by depositing a true copy thereof with the United States Postal Service, first-class postage prepaid, addressed to the parties listed on the attached list unless otherwise noted:

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