

issue the regulation. In addition, Executive Order 12875 requires EPA to develop an effective process permitting elected officials and other representatives of State, local, and tribal governments "to provide meaningful and timely input in the development of regulatory proposals containing significant unfunded mandates."

Today's rule does not create an unfunded Federal mandate on State, local, or tribal governments. The rule does not impose any enforceable duties on these entities. Accordingly, the requirements of section 1(a) of Executive Order 12875 do not apply to this rule.

C. Executive Order 13084

Under Executive Order 13084, entitled *Consultation and Coordination with Indian Tribal Governments* (63 FR 27655, May 19, 1998), EPA may not issue a regulation that is not required by statute, that significantly or uniquely affects the communities of Indian tribal governments, and that imposes substantial direct compliance costs on those communities, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by the tribal governments. If the mandate is unfunded, EPA must provide to OMB, in a separately identified section of the preamble to the rule, a description of the extent of EPA's prior consultation with representatives of affected tribal governments, a summary of the nature of their concerns, and a statement supporting the need to issue the regulation. In addition, Executive Order 13084 requires EPA to develop an effective process permitting elected officials and other representatives of Indian tribal governments "to provide meaningful and timely input in the development of regulatory policies on matters that significantly or uniquely affect their communities."

Today's rule does not significantly or uniquely affect the communities of Indian tribal governments. This action does not involve or impose any requirements that affect Indian tribes. Accordingly, the requirements of section 3(b) of Executive Order 13084 do not apply to this rule.

IV. Submission to Congress and the Comptroller General

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the

Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. This rule is not a "major rule" as defined by 5 U.S.C. 804(2).

List of Subjects in 40 CFR Part 180

Environmental protection, Administrative practice and procedure, Agricultural commodities, Pesticides and pests, Reporting and recordkeeping requirements.

Dated: November 2, 1998.

James Jones,

Director, Registration Division, Office of Pesticide Programs.

Therefore, 40 CFR chapter I is amended as follows:

PART 180 — [AMENDED]

1. The authority citation for part 180 continues to read as follows:

Authority: 21 U.S.C. 346a and 371.

§180.482 [Amended]

2. In §180.482, by amending the table in paragraph (b) for the following commodities "Leafy Vegetable (Cole-brassica)" and "Leafy Vegetables (non-brassica)" by revising the date "2/28/99" to read "8/31/00."

[FR Doc. 98-31544 Filed 11-24-98; 8:45 am]

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FEDERAL COMMUNICATIONS COMMISSION

47 CFR Parts 1, 21 and 74

[MM Docket No. 97-217; FCC 98-231]

MDS and ITFS Two-Way Transmissions

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: In this Report and Order ("Order"), the Commission adopts amendments to its rules to enable Multipoint Distribution Service ("MDS") and Instructional Television Fixed Service ("ITFS") licensees to engage in fixed two-way transmissions. These rule changes enhance the flexibility of MDS and ITFS operations through facilitated use of response stations, use of cellular configurations, use of signal booster stations with program origination capability, and use

of variable bandwidth ("subchanneling" or "superchanneling"). As a result of these rule changes, any MDS and ITFS frequencies in the 2 GHz band may be used by licensees, or leased to wireless cable operators, for broadband data, video or voice transmissions to and/or from subscribers' premises, promoting the competitive position of the wireless cable industry, augmenting the educational uses of these frequencies by ITFS entities, and increasing services to consumers.

DATES: Effective January 25, 1999.

FOR FURTHER INFORMATION CONTACT:

Michael J. Jacobs, (202) 418-7066 or Dave Roberts, (202) 418-1600, Video Services Division, Mass Media Bureau.

SUPPLEMENTARY INFORMATION: This is a synopsis of the Commission's *Report and Order*, MM Docket No. 97-217, adopted September 17, 1998, and released September 25, 1998. The full text of this *Order* is available for inspection and copying during normal business hours in the FCC Reference Center (Room 239), 1919 M Street, N.W., Washington, D.C., and also may be purchased from the Commission's copy contractor, International Transcription Services, Inc., (202) 857-3800, 1231 20th Street, N.W., Washington, D.C. 20036.

Synopsis of Report and Order on MDS and ITFS Two-Way Transmissions.

I. Introduction

1. This *Order* is adopted by the Commission after receiving and evaluating comments and reply comments, including "permit-but-disclose" *ex parte* comments, filed in response to the Commission's Notice of Proposed Rulemaking ("NPRM") in this docket. *MDS and ITFS Two-Way Transmissions*, 62 FR 60025, Nov. 6, 1997, as corrected, 62 FR 60750, Nov. 12, 1997. The *NPRM* was issued after the Commission initially sought comment on a petition for rulemaking filed by a group of 111 educators and participants in the wireless cable industry (collectively, "Petitioners"), comprised of MDS and ITFS licensees, wireless cable operators, equipment manufacturers, and industry consultants and associations. Currently, MDS and ITFS licensees are authorized to use digital technology in order to increase the number of usable one-way channels available to them, leased ITFS frequencies and MDS channels may be used for asymmetrical high speed digital data applications so long as such usage complies with the Commission's technical rules and its declaratory ruling on the use of digital modulation by MDS and ITFS stations ("Digital Declaratory

Ruling," 11 FCC Rcd 18839 (1996)), and MDS licensees have been permitted to provide two-way service on a limited basis. Response channels, which currently are allocated in 125 kHz blocks for use in association with most MDS and ITFS stations, must be individually licensed under the Commission's existing rules. Prompted by the petition for rulemaking, the *NPRM* anticipated that many MDS and ITFS licensees and wireless cable operators engaging in two-way transmissions will require more capacity for return paths than is available through such 125 kHz channels, and recognized that the individual licensing of such channels is too cumbersome and imposes too great a financial burden on licensees seeking to implement two-way wireless services. Instead, the *NPRM* proposed to implement a system under which MDS and ITFS licensees would be permitted to utilize all or part of a 6 MHz channel for return path transmissions from subscriber premises, to cellularize their transmission systems to take advantage of spectrally efficient frequency reuse techniques, and to employ modulation schemes consistent with bandwidths either larger or smaller than 6 MHz, all while providing incumbent MDS and ITFS licensees interference protection equivalent to what they currently receive.

2. The comments and reply comments from wireless cable industry participants generally support the *NPRM*'s proposals, and include a *Joint Statement of Position* ("*Joint Statement*") supported by several industry participants in an attempt to reach agreement primarily on issues related to leasing of excess spectrum capacity by ITFS licensees. While several commenters express concern over the details of the proposals advanced in the *NPRM* and of the *Joint Statement*, the comments and reply comments reflect unanimous support in the MDS and ITFS communities for rules which would enable MDS and ITFS licensees and wireless cable operators to offer a wide array of new, enhanced services, including new digital and two-way communications services. As a result, in this *Order* we: (1) permit both MDS and ITFS licensees to provide two-way services on a regular basis; (2) permit increased flexibility on permissible modulation types; (3) permit increased flexibility in spectrum use and channelization, including combining multiple channels to accommodate wider bandwidths, dividing 6 MHz channels into smaller bandwidths, and channel swapping; (4)

adopt a number of technical parameters to mitigate the potential for interference among service providers and to ensure interference protection to existing MDS and ITFS services; (5) simplify and streamline the licensing process for stations used in cellularized systems; and (6) modify the ITFS programming requirements in a digital environment. We believe that the rules that we adopt in this *Order* will facilitate the most efficient use of the affected spectrum, enhance the competitiveness of the wireless cable industry, and provide benefits to the educational community through the use of two-way services, while still permitting traditional use of the spectrum, thus giving both MDS and ITFS licensees the flexibility they need to serve best the public interest.

II. Technical Changes to Rules

A. Revised Definitions of Service

3. The ITFS/MDS spectrum is used primarily for the provision of either one-way video service to students, in the ITFS context, or, in the MDS context, wireless cable service to subscribers, which likewise historically has constituted primarily the provision of one-way video services. While our Rules already permit MDS licensees to provide non-video services, under our current regulatory scheme, MDS operators typically only provide two-way service to subscribers using telephone return links or individually licensed subscriber premises stations. This is an outgrowth of the basic one-way approach to MDS transmission from which our current rules originated.

4. Changes that we adopt in the *Order* to MDS and ITFS service definitions fully incorporate the concept of two-way transmission and reflect the reorientation of the regulatory approach to a flexible service, from that of an essentially one-way service. A regulatory system is created authorizing the use of response station hubs and the more flexible use of response stations, enabling the two-way operation of wireless cable systems. Specifically, the definition of a "response station" is amended to indicate that licensees may use all or part of any of their 6 MHz channels as a response channel. Response stations will be the means of transmission from a subscriber's premises, and can use either separate transmitting antennas for return paths or combined transmitting/receiving antennas. The concept of a response station hub is added, and these hubs will serve as the collection points for signals from the response stations in a multipoint-to-point configuration for upstream signal flow. Thus, response

stations would not need to be licensed individually, and they could operate at lower power because the response station hubs would be located closer to subscriber premises than are current transmitter sites. Moreover, the hubs are expected to improve service reliability and permit greater frequency reuse than if each subscriber were required to communicate directly with their associated main transmitter site.

5. We further amend the definition for "signal booster stations" to allow such stations to originate transmissions, as well as to relay transmissions from other stations. Booster stations now may be used to cellularize wireless cable operations in areas too large to be served by a single station. High-power boosters are those which operate above -9 dBW EIRP, while low-power boosters may operate at or below the -9 dBW threshold. Permitting boosters to originate as well as relay programming will facilitate frequency reuse, cellular configurations, two-way high speed Internet access and other services. Booster station signals will receive interference protection within the booster's service area, but not at receive sites beyond the booster's service area, and booster stations may not have overlapping service areas. We also agree with the *Joint Statement* and with the comments of several parties that all booster stations should be licensed to the licensee of the channels used by the booster station.

6. After receiving broad support in the comments and reply comments to the *NPRM*, flexible subchannelization (*i.e.*, the division of a channel of a particular bandwidth into multiple, but not necessarily equal, channels of smaller bandwidth) will be permitted to allow more efficient channel reuse within a given service area, and superchannelization (*i.e.*, the combining of more than one channel into a single, wider channel) will be allowed and may be used for the transmission of high data rates and/or the use of spread spectrum emissions. Superchannels also will be licensed to multiple entities in many instances, due to the fact that the interleaved, non-contiguous channels in this band generally are licensed to different entities. Subchannels and superchannels will be limited to digital transmissions with fixed uniform power spectral density across the bandwidth, in order to make possible the use of spectral density analysis as part of the interference analysis process. However, we are permitting the maximum possible flexibility for digital subchannelization and superchannelization. Such flexibility includes: subchannelization and

superchannelization of 6 MHz and 125 kHz channels; permitting such techniques both for point-to-multipoint (downstream) and response channel use; subchannelization of superchannels, e.g., an 18 MHz superchannel could be redivided into two 9 MHz channels or any other combination which sums to 18 MHz; division of superchannels into partially overlapping subchannels which sum to greater than the width of the superchannel, e.g., an 18 MHz channel subdivided into three channels each 8 MHz wide, thus producing two overlapping areas of 3 MHz each; and permitting licensees to use either static (fixed and unchanging) or dynamic (not fixed and changing) bandwidths at their stations, so as to optimize the efficiency and speed of information flow. We will continue to issue individual authorizations to individual licensees for 6 MHz and 125 kHz channels, and we will not issue specific authorizations for superchannels or subchannels.

7. Finally, after receiving support from most commenters, we adopt rules in accordance with the most flexible framework proposed in the *NPRM* for use of the 125 kHz channels. Such flexibility includes: permitting the 125 kHz channels to be used as response channels and/or for point-to-multipoint transmissions, which promotes greater options for two-way system design and more efficient use of the spectrum; allowing licensees to swap 125 kHz channels and removing requirements that each 125 kHz channel be used solely in conjunction with a specifically associated 6 MHz channel, which together present opportunities for licensees to create channels with bandwidths exceeding 125 kHz; and, as suggested by the Instructional Telecommunications Foundation, Inc. (Foundation), allowing the content of those channels to be independent of that transmitted on related 6 MHz channels. For the sake of simplicity and consistency with the MDS/ITFS database, we also redesignate the 125 kHz channels as the I channels. In adopting this flexible approach towards the 125 kHz channels, we deny the request of the Catholic Television Network (CTN) that we reallocate all of the 125 kHz channels to ITFS and use them solely for response transmissions, and we also deny the University of Maryland's request that we mandate that any non-ITFS use of I channels licensed to an ITFS entity be secondary to ITFS use. Where the I channels are used for downstream transmissions, they will be afforded interference protection in the same manner as other

point-to-multipoint MDS and ITFS facilities. An MDS or ITFS licensee or applicant wishing to use its I channels for downstream transmissions shall apply for such authority using FCC Form 331, and shall prepare interference showings and serve them on potentially affected parties.

B. Interference Considerations

8. *Spectral Mask*. In the *Digital Declaratory Ruling*, the Commission waived its rules with respect to out-of-band emissions and permitted the use of a somewhat relaxed spectral mask for digital transmission modes. This action was taken because the Commission concluded that the application of the current analog emission mask to digital emissions would be unnecessarily restrictive and could increase the cost of digital equipment while providing no benefit. In addition, the results of laboratory tests submitted in connection with the Commission's consideration of this issue demonstrated that a digital station using the relaxed mask is less likely to cause interference than an analog station using the existing, more restrictive, mask.

9. As proposed in the *NPRM*, and subject to slight modifications based on comments of the General Instrument Corporation (formerly NextLevel Systems, Inc.) which we believe will have no impact on the interference environment, we permanently incorporate into the Rules the digital spectral mask waiver provisions of the *Digital Declaratory Ruling*, specifically for main station, high-power booster and response station transmitters which operate on a single 6 MHz channel; masks also are specified, albeit with certain further modifications, for sub- and superchannels, 125 kHz channel stations, and high-power booster stations transmitting using analog or digital modulation on multiple non-contiguous channels simultaneously carrying separate signals ("broadband boosters"). Furthermore, as in the *Digital Declaratory Ruling*, all spectral mask calculations involving digital emissions will use the average power of the emission across its bandwidth, and steps must be taken to ensure substantially uniform power spectral density across the bandwidth in use, including constant power per unit of bandwidth for sub- and superchannels, with 6 MHz as the reference bandwidth, and continuous energy dispersal during times of no modulation. We also incorporate into the Rules formulas provided by Petitioners for consistent spectral mask measurement and interpretation, and based on comments by CTN and as a result of technological

advances over the past year, we eliminate the exception proposed in the *NPRM* to the mask for response stations, which would have allowed for discrete spurious emissions. No spectral mask whatsoever will be applicable to low-power booster stations using analog or digital modulation, but such transmitters will be shut down if it is established that they are causing harmful interference.

10. *Power*. As requested by Petitioners, we will permit response stations to use up to 33 dBW EIRP. While the Commission had proposed in the *NPRM* to place a limit of 18 dBW EIRP on response station transmitters in cellularized systems, and although we continue to be concerned about interference, we concur with the conclusions of Petitioners' propagation analysis that the proposed 18 dBW power limit would adversely impact system range and reliability, thereby increasing the number of stations needed and increasing system costs. As a practical matter, however, we do not expect that all, or even most, response stations will utilize the maximum power permitted. In addition, while current MDS and ITFS rules limit booster power to 18 dBW EIRP, henceforth we allow boosters to operate up to 33 dBW EIRP, the maximum power level for MDS and ITFS. The 33 dBW power limit is predicated on a bandwidth of 6 MHz, and the power limit for stations using lesser bandwidth must be reduced proportional to that bandwidth. We also retain frequency tolerance requirements for digital and analog main station and high-power booster station transmitters, while declining to impose such requirements for low-power booster and response station transmitters; retain rules requiring type certification of main and booster transmitters, and adopt rules requiring type certification of response station transmitters, subject to exceptions set forth in the *Digital Declaratory Ruling* regarding the use of existing analog equipment for digital emissions; and adopt rules protecting against excessive radio frequency ("RF") emissions exposure from MDS/ITFS return path transmissions, in a manner similar to the approach that we adopted for LMDS.

11. *Interference Protection Criteria*. The Commission's current regulations in ITFS and MDS for interference protection were designed to minimize the potential for destructive cochannel and adjacent channel interference between systems located in proximity to each other. The specific criteria for protection are of two forms, namely, (1) cochannel and adjacent channel

desired-to-undesired signal (D/U) ratios and (2) limits on the magnitude of a station's free space field as measured at the edge of the station's protected service area. For cochannel interference protection, an applicant must configure its system so that the signals from each of its transmitters are at least 45 dB weaker than the signals of the existing licensee's transmitters within the licensee's protected service area and/or, in the case of ITFS licensees, at the licensee's protected receiver sites. For adjacent channel protection, the ratio must be at least 0 dB. In order to meet the second form of protection, an applicant generally must be able to demonstrate that the magnitude of the free space radiated field from each transmitter does not exceed a particular limit (*i.e.*, a power flux density -73 dBW/m²) at the boundary of the applicant's service area.

12. As proposed in the *NPRM*, and as supported by all parties commenting on this issue, we will apply the existing interference criteria in essentially unchanged form, and supplement them with similar new criteria to be applied to hub, booster, and response stations. Furthermore, because two-way systems will involve large numbers of transmitters with heavy frequency reuse and simultaneous operation, a calculation of the combined field produced by the main station transmitter, all cochannel boosters, and the aggregated power from cochannel response stations within a system will be utilized to determine compliance with the interference criteria where these stations partially or completely share spectrum. These criteria shall be adjusted to account for the particular bandwidths involved in the calculations. We also emphasize that where an interfered-with receive antenna meets the antenna characteristics set forth in our MDS and ITFS rules, the station causing the harmful interference is responsible for curing it.

13. *Interference Prediction Methodology.* In order to predict the interference potential of response stations in cellularized systems, we will implement a modified version of the three-step process proposed in the *NPRM*, which uses statistical analysis and worst-case assumptions in deriving theoretical estimations of the locations and characteristics of individual response stations, because these response stations will be licensed under blanket authorizations which specify only the locations of the associated hubs to which the response stations transmit. This methodology is found in Appendix D to the *Order*, and is captioned

"Methods for Predicting Interference from Response Station Transmitters and to Response Station Hubs and for Supplying Data on Response Station Systems." This sequence of system design, development and authorization necessitates a radical departure from the customary process whereby interference calculations are made based on specific information concerning specific stations at specific locations with specific operating parameters.

14. In step one, the hub station response service area ("RSA") is defined and a grid of points is located within this area representative of the expected actual distribution of response station transmitters within the area. Regions within the area are defined so that an adequate population uniformity exists for purposes of predicting interference from a distribution of response station transmitters. While the methodology originally proposed in the *NPRM* would have determined population uniformity using a complex formula involving evaluation of the population density within each ZIP Code within the planned boundaries of a region, in response to comments filed by Spike Technologies, Inc. (Spike) and others that this procedure would not produce results representative of the actual distribution of response stations, the methodology has been corrected so that interference analyses will be conducted from the grid points which have the greatest interference potential, taking into account, both for TDMA and CDMA systems, all potential victim sites both inside and outside the RSA. In step two, the technical characteristics of response stations which will be associated with each point in the RSA grid are identified. One or more classes of response stations are identified within the RSA and its regions, with each class being a function of several variables, such as transmitted power (EIRP), antenna height, frequency, bandwidth, and maximum number of assumed simultaneously operated response stations in the regional class; these characteristics and others will be specified in the response hub application. In response to comments of EDX Engineering, Inc. (EDX) and others that the originally-proposed methodology ignored terrain data, each grid point now will be assigned the highest elevation AMSL of all the geographic area surrounding that grid point, thus making the theoretical stations assigned to each grid point much more likely to be representative of the actual interference potential.

15. The final step in calculating response station interference would require combining the radiated fields of

all response stations of all classes, regions and RSAs within the primary station's protected service area. In order to simplify this calculation, the statistical population uniformity within each region will be used as a basis for grouping response stations of all classes in proximity at the grid points laid out within each RSA; multiple classes could share the same grid points. For each class of response stations assigned to a grid point, a set of worst-case assumptions will be made concerning the transmitting antenna radiation pattern, transmitter power (EIRP) and antenna height. Several complex calculations, including procedures for checking the initial calculations, combining the radiated field for all of the transmitters for each class of response station at each grid point from all RSAs will then be used to evaluate compliance with the interference criteria. Subsequently, licensees are free, upon notification to the Commission, to continue adding response station transmitters within their systems until calculations indicate that permissible interference values would be exceeded.

16. We also have considered other proposed modifications to the proposals in the *NPRM* for predicting interference from response stations and to hubs, which we believe render the methodology sufficiently comprehensive and conservative without being overly protective or stifling of growth. For instance, we agree with CTN and others who argue that the "minimum receivable signal" hub protection standard proposed in the *NPRM* would have, in some instances, overprotected the hub and thus potentially precluded construction of other stations. Instead, we adopt Petitioners' amended proposal to protect the hub's noise floor, and to take into account the actual antenna(s) in use at the hub. However, in adopting the methodology as modified, we decline to adopt several other proposed modifications, including: EDX's proposed alternate methodology, in which all response station transmitters within a defined area would be represented by a single hypothetical aggregate response station located at the hub site, and which likely would give erroneous interference calculations for many two-way system configurations; Spike's suggestion that applicants should be free to choose any methodology they wish for making interference calculations, which would have promoted uncertainty and slowed the evaluation of applications; and Spike's recommendation that hubs be

redefined to include transmitting capability, which would add unnecessary complexity to the interference protection rules and which is further unnecessary in light of the ability of licensees to collocate hubs with boosters and main stations.

17. We also decline to adopt the guardband proposal for interference protection advanced by CTN. CTN contends that interference could be caused to ITFS receive sites by nearby response stations which are neither cochannel nor adjacent channel to the channels in use at the ITFS receive sites, as a result of brute force overload ("BFO") to broadband downconverters used at these sites. As a solution to the potential problem of interference from response stations, including BFO, CTN proposes that a guardband be used as a buffer between downstream ITFS operations and upstream operations, with downstream MDS operations occupying the guardband. CTN argues that a guardband would have several benefits, such as mooted the need for calculating response station interference into ITFS receive sites, and confining the risk of BFO, as well as cochannel and adjacent channel interference, solely to MDS licensees. While we find CTN's guardband proposal unduly limiting of system design flexibility, and we also at this time reject as unduly restrictive CTN's proposal of on-air testing of response stations within a certain proximity of ITFS receive sites prior to activation of those response stations, we adopt a slightly modified version of CTN's proposal that no response station may be installed until a notification is sent to each ITFS licensee with any registered receive site within a distance of 1960 feet of the location of the proposed response station. Moreover, because we agree with CTN that BFO is a possibility in certain limited circumstances, we will require that licensees of stations causing interference immediately commence a full cooperative effort with licensees receiving interference, to solve the problem as quickly as possible at the expense of the offending licensee. We emphasize that we will order the immediate deactivation of part or all of a system if that system is causing any interference—whether cochannel, adjacent channel or BFO—and the licensee has not cooperated fully and in a timely manner to eliminate the interference.

C. Modulation Methods

18. In the *Digital Declaratory Ruling*, the Commission authorized the use of QAM and VSB modulation. While the Commission declined to consider the

use of other digital modulation methods in the context of that proceeding, it stated that it would consider future requests for declaratory rulings where the requesters submit appropriate data to demonstrate that other modulation techniques could be used in a manner that would not interfere with MDS and ITFS analog and digital operations.

19. As in the *Digital Declaratory Ruling*, and as supported by the commenters on this issue, we decline to adopt one or more "standard" digital technologies. We retain and add provisions for accommodating the use of different modulation types. In the *NPRM*, the Commission solicited comment on whether there is a basis for concluding that use of particular digital modulation types by MDS and ITFS stations other than VSB and QAM would not be prone to interference, based on the current 45 dB/0 dB protection ratios for cochannel and adjacent channel interference respectively, *i.e.* that such modulation formats should be permitted without requiring test data. For example, one modulation type may be a subset of VSB and QAM and, therefore, is covered under the industry tests used to support the *Digital Declaratory Ruling*. In response, four parties filed a joint request for declaratory ruling asking that the Commission permit the use of two additional forms of digital modulation, CDMA and QPSK, and we are persuaded to permit use of those modulations on a regular basis at all MDS and ITFS stations. In addition, because we wish to encourage parties to continue to identify different digital modulation schemes that could be useful in MDS and ITFS, we emphasize that we remain open to considering future requests for declaratory rulings in accordance with the *Digital Declaratory Ruling*, upon submission of appropriate data. Finally, in order to facilitate testing and use of different digital modulations where possible, we will permit licensees and system operators to use any digital emission in limited circumstances which we set forth where interference is unlikely or where all parties potentially affected by interference have consented to such use, and so long as such emissions meet spectral mask and uniform power spectral density requirements.

III. Application Processing Issues

20. We set forth a scheme governing the filing and processing of applications for new or modified response station hubs, boosters or downstream I Channel operations, that will substantially shift review of such applications from Commission staff and leave much of the

interference environment to be worked out among licensees. As proposed in the *NPRM*, we adopt a rolling, one-day filing window system. While each applicant will be required to demonstrate protection of existing or previously proposed facilities, applications filed on the same day will be granted and the filers left to resolve incompatibilities amongst themselves with little or no intervention by Commission staff. Because parties will be unable to offer reliable service without resolving such conflicts, we believe that the incentive to reach a resolution will be so great that Commission involvement will be unnecessary to resolve disputes.

21. Specifically, applications first will be placed on public notice without prior staff review of interference studies. While the Commission tentatively rejected in the *NPRM* Petitioners' proposal that the applications then would be granted automatically on the 61st day after that notice, unless a petition to deny was filed or the Commission notified the applicant prior to that date that a grant would not be made, the majority of commenters on the subject supported some type of streamlined process, especially when coupled with a complete guarantee of protection against interference. Upon review of these comments, we have been persuaded that failure to adopt an expedited processing system would be seriously detrimental to the provision of two-way service, despite the increased burden that such a system places on licensees to track and monitor applications. Thus, we adopt a modification of the automatic grant proposal, a certification procedure, whereby an applicant must certify in its application that it has completed, served upon potentially affected parties, and submitted to the Commission's copy contractor all required interference studies (or consent letters) and engineering showings demonstrating no interference. Before placing an application on public notice, Commission staff will review it to ensure that all required certifications are included, and any application that does not contain the proper certifications will be dismissed. The application will be granted in reliance on the certifications on the 61st day after public notice, unless a petition to deny is filed against it or the Commission finds in a random audit that the applicant certified falsely. A false certification also could be grounds for revocation of a license. Though consistent with similar certification procedures that have been adopted for other communications

services, this approach is particularly appropriate for MDS and ITFS, because the interdependence of those two services in most cases relies on the parties working together. And, as a safeguard, systems causing interference must cure it immediately or face shut-down, even if the station applications had been unopposed.

22. A large number of applications are likely to be filed once the new rules become effective, and many of the applications submitted at that time may conflict with others filed simultaneously. Therefore, as proposed in the *NPRM*, in order to smooth the transition to the rolling one-day filing window application processing system, we adopt a special one-week initial filing window, the opening of which will be announced by public notice, where all applications filed during this window will be deemed to have been filed as of the same day. Following the publication of a public notice announcing the tendering for filing of applications submitted during that window, applicants will have a period of 60 days to amend their applications to resolve conflicts. During this 60-day period, no additional applications may be filed, affording those who filed during the one-week window an opportunity to resolve any conflicts without fear that, during the pendency of settlement discussions, third parties will propose facilities that will have to be protected if the original applicants amend their applications. After this initial 60 day period, public notice and application grant procedures akin to those that we adopt for the rolling one-day filing windows will be implemented. On the 61st day after the publication of the second public notice, the rolling one-day filing window will go into effect. We believe that our adoption of the one-week initial filing window will lessen the burden on all affected parties, including the Commission's staff, during the first round of application filing. We also believe that providing parties with an initial 60-day period during which they can resolve any apparent conflicts and then amend their applications without prejudice will serve to expedite service to the public by allowing parties to resolve their differences without the need to seek Commission review through the petition to deny process.

23. In the *NPRM*, the Commission solicited comment on whether to adopt a system whereby an applicant, once authorization for service has been granted, may switch from common carrier to non-common carrier service and back without seeking subsequent authorization. The Commission also

sought comment on whether operators should be required to give the Commission notice when they are switching back and forth between common carrier and non-common carrier service, even if prior approval is not required. What little comment we received on this subject was supportive of providing the requested flexibility, and we adopt rules implementing it, subject to a requirement that licensees provide the Commission with 30-days advance notice of such changes.

IV. Proposals and Issues Primarily Involving ITFS

24. Under § 74.931 of the Commission's Rules, ITFS stations are operated by educational organizations and are "intended primarily to provide a formal educational and cultural development in aural and visual form," to students enrolled for credit in accredited secondary schools, colleges and universities. Currently, § 74.931(e)(9) specifies that an ITFS licensee who leases excess channel capacity to a wireless cable operator must provide a total average of at least 20 hours per channel per week of ITFS programming on its authorized channels. ITFS licensees in such lease arrangements also retain the right to recapture "an average of an additional 20 hours per channel per week for simultaneous programming on the number of channels for which it is authorized." In addition, an ITFS licensee may shift its required educational programming onto fewer than its authorized number of channels via channel loading or channel mapping. The licensee may further agree to transmission of recapture time on channels not authorized to it but which are included in the wireless cable system of which it is a part.

A. ITFS Programming Requirements

25. In the *NPRM*, the Commission sought comment on several issues related to the question of whether to change our ITFS programming requirements in light of the use of digital technology by ITFS licensees. It asked whether there should be different rules depending on whether the wireless cable system employs digital or analog transmissions, or some combination of both. It further asked whether our existing program content requirements should be retained or whether they should be modified. Specifically, the Commission sought comment on whether data transmission and voice transmission should count toward the fulfillment of minimum programming requirements, and if they were to count, how they would be

measured. The Commission also welcomed suggestions on whether education-related upstream transmissions should be applied towards satisfaction of minimum ITFS programming requirements, and, if so, how they should be measured for that purpose. The *Joint Statement* takes positions on many of these issues. To the extent that it and its supporters represent an agreement by most of the parties in the wireless cable industry and MDS and ITFS services, we have accorded it deference in formulating our policies. Nonetheless, while we find some of its approaches sound, we find some of its provisions unworthy of adoption.

26. *Redefinition of Eligible Content.* Commenters unanimously support the proposal that spectrum usage beyond video programming be eligible to satisfy ITFS educational usage requirements. We agree that availability of advanced technologies dictates that it is now time to accord ITFS licensees increased flexibility in determining which transmissions qualify as satisfying 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 (such as certain uses by health care facilities), 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. Furthermore, in light of the myriad of possible uses of the spectrum for courses by accredited schools, we no longer need a separate rule pertaining to where transmissions are not to on-campus receive sites.

27. We also will subject ITFS signal booster stations to educational usage requirements, in conjunction with those to which main ITFS stations are subject, and unless otherwise specified in the Rules, a "channel" henceforth shall refer to any of the 6 MHz frequency blocks assigned pursuant to §§ 21.901(b) and 74.902(a) of the Commission's Rules. We amend § 74.931 and other pertinent rules to reflect all of these changes. However, while Hispanic Information and Telecommunications Network contends that qualifying educational service should not be

limited to that offered by accredited institutions, we disagree, because requiring that a qualified licensee be an accredited institution provides greater certainty of the integrity of the licensee's educational function. Thus, we will keep intact our eligibility requirements of § 74.932(a).

28. *Analog Programming Requirements.* Commenters who address this subject unanimously believe that the current programming requirements should be retained for ITFS licensees solely engaged in transmission of downstream analog programming. We agree, and we will impose no changes to programming requirements where licensees solely use analog transmissions. However, for some commenters there is still discord over what the extent is of the recapture time requirement. In the *NPRM*, the Commission rejected Petitioners' proposed changes to § 74.931(e) that sought to revise the absolute 20 hours per channel per week recapture time requirement to provide that the ITFS programming requirements constitute a total of 40 hours per channel per week, including both actual programming and recapture time. While Petitioners and some other commenters argue that the Commission's stance in the *NPRM* will deter investment, we believe that the Commission's rejection in the *NPRM* of Petitioners' proposed changes to our recapture time requirements was correct. However, in response to concerns expressed by BellSouth, we clarify that the Rules do not require that 20 hours always be reserved without accounting for the amount of recapture already exercised.

29. *Digital Educational Usage Requirements.* While CTN insists that educational usage requirements must be modified to reflect increased capacity arising from use of digital technology, and argues that a proportionate increase in instructional usage is needed to prevent the dilution of the instructional nature of ITFS channels, the overwhelming majority of commenters on these issues favors retaining the current minimum educational usage requirements in a digital environment. Some of these commenters, such as BellSouth, argue that "there is no direct correlation between technological advancements and the need for ITFS programming"; others, such as Wireless One of North Carolina, L.L.C., observe that many ITFS licensees are finding it difficult even to satisfy the existing ITFS minimum educational usage requirements; several others assume the posture reflected in the *Joint Statement*, that while the educational usage requirements should not be changed,

25% of an ITFS licensee's capacity should be immediately available to the ITFS licensee or subject to recapture (with a minimum of 5% of the licensee's capacity immediately available); and some others, such as the San Francisco-San Jose Educator/Operator Consortium, contend that recapture requirements are inefficient and urge that the Commission abolish them.

30. Because we seek to maximize the flexibility of educators and wireless cable operators to design systems which best meet their varied needs, we will adopt ITFS excess capacity leasing rules which best promote this flexibility while at the same time safeguarding the primary educational purpose of the ITFS spectrum allocation. After a careful review of the comments in this proceeding, we decide that these goals are best harmonized where digital transmissions are used by retaining the current 20 hours per channel per week educational usage requirements, adopting the *Joint Statement's* proposed absolute reservation of a minimum of 5% of an ITFS station's licensed capacity for instructional purposes only, and eliminating requirements setting aside capacity for ready recapture by ITFS licensees. We emphasize that the 20 hours per channel per week minimum educational usage requirement is independent from, but concurrent with, the minimum 5% capacity reservation; further, the reserved capacity can be devoted to satisfying minimum educational usage requirements. These complementary standards are in the public interest because they insure the immediate devotion of ITFS spectrum to formal educational usage, and the provision by ITFS licensees of at least as much educational usage as they provide under the current rules, while providing for expansion of ITFS service offerings and maximization of spectrum available for leasing to wireless cable operators. Thus, these standards also serve the same purposes as the recapture provisions that they supplant.

31. Whether a reservation of 5% of the licensee's capacity is sufficient to meet the minimum educational usage requirements, let alone provide for future expansion of service, will depend both on the digital compression ratio employed by the licensee, and on the particular form of transmissions utilized by the licensee to meet its usage requirements; in some cases, an ITFS licensee may need to reserve more than 5% of its capacity in order to satisfy its educational usage requirements or to provide room for future expansion of services. We also emphasize that an ITFS licensee may reserve for itself in

excess capacity lease negotiations more than the minimum required reservation of capacity, and is free not to lease its excess capacity at all if it does not wish to do so.

32. *Measurement of Educational Usage.* In recognition of the difficulty of measuring compliance with the requirements of 20 hours per channel per week of educational usage and the 5% minimum capacity reservation, and in light of the varied forms that ITFS spectral usage can take, we agree with those parties commenting on this issue that at least for now, the best course is to rely on the good faith efforts of ITFS licensees to meet these requirements, subject to potential Commission audits with the licensee bearing the burden of proof of compliance. We decline to adopt time-of-day requirements for measuring educational usage, and in light of changed content requirements and available service options as a result of this proceeding, we grant relevant portions of pending petitions for reconsideration of a 1994 Commission decision that only programming transmitted for "real time" viewing by students counts towards minimum educational usage requirements.

B. Channel Loading, Shifting and Swapping

33. It is anticipated that system developers will attempt to utilize contiguous 6 MHz channels for two-way services in order to minimize the amount of spectrum that would be lost to the spectral mask whenever a return path is adjacent to a downlink channel. Furthermore, entire ITFS channel groups may need to be devoted for return paths. Thus, in the *NPRM*, the Commission advanced Petitioners' proposal that we allow ITFS licensees to satisfy their educational usage requirements on other channels within the wireless cable system ("channel loading"), and not mandate that licensees meet these requirements using at least one of their own channels ("channel shifting"). The Commission also proposed to allow the trading of channels between licensees ("channel swapping"), and solicited comment on whether ITFS licensees should be required to retain one or more channels for downstream transmissions. The general concepts of channel loading, shifting and swapping are endorsed by the *Joint Statement* and supported by almost all of the commenting parties. With the exception of our channel loading rules and intra-ITFS channel swaps between licensees using analog transmissions only, the concepts which we permanently adopt in the *Order* apply only to licensees using digital

transmissions, leasing excess capacity to an operator which uses digital transmissions, or swapping channels with a licensee which uses digital transmissions.

34. *Channel Loading.* The parties commenting on our channel loading rules unanimously support their retention, and we shall do so. In response to comments of Petitioners and of BellSouth, we also modify these rules to eliminate the requirement that each ITFS licensee engaged in channel mapping or channel loading preserve the ability to transmit all of its ready recapture time simultaneously on the number of channels for which it is licensed.

35. *Channel Shifting.* The overwhelming majority of commenters on this proposal wholeheartedly support it. While the *Joint Statement* supports the proposal so long as the usage is shifted onto channels licensed to other ITFS entities, we are amending our Rules to permit maximum flexibility in voluntary channel shifting for an ITFS licensee which itself uses, or leases excess capacity to a wireless cable operator which uses, digital transmissions. Such flexibility encompasses the right of an eligible ITFS licensee to shift its required educational usage onto any other channel(s) within the same wireless cable system, regardless of whether licensed to an MDS or ITFS entity. We hope that the flexibility we accord to ITFS licensees to lease their channel capacity, along with the maintenance of minimum ITFS educational usage requirements, also encourages educators to apply for new ITFS stations and leads to more educational usage.

36. *Downstream Channel Reservation.* Of the few comments that we received on this issue, the majority favors a mandatory preservation of one downstream channel. We are adopting the *Joint Statement's* proposal, as modified by comments of Alliance for Higher Education, *et al.* (Higher Education Alliance): that each ITFS licensee leasing channels to be used for return paths shall be required to maintain at least 25% of its capacity to be used for downstream transmissions both during the term of the lease and following termination of its leasing arrangement; and that this preservation need not be over the licensee's own licensed channels. In order to provide additional safeguards of the ITFS spectrum allocation, we stipulate further that in the event the leasing arrangement ends, the wireless cable operator must return to the ITFS licensee unfettered use of as many 6 MHz channels as are authorized to the

licensee; only 25% of these channels, however, must be devoted to downstream transmissions.

37. *Channel Swapping.* The comments that we received unanimously are in favor of the concept, and most commenters on these issues indicate full support both for swaps between ITFS channels, as well as between ITFS and MDS channels. The rules that we adopt allow nearly maximum flexibility in the types of swaps that may take place. We decline to adopt proposals limiting the location of response channels, such as a proposal which the Commission tentatively rejected in the *NPRM* as unduly restrictive, which sought to convert MDS channels 1, 2 and 2A to upstream use only, leaving the rest of the MDS and ITFS spectrum solely for downstream use. Moreover, because channel swapping is voluntary and its terms negotiable, we see no need to adopt the proposal of Schwartz, Woods & Miller (SWM) to require that the wireless cable operator cover all of the costs of channel swaps. We implement simple procedures for channel swap applications: Each licensee seeking to swap channels shall file a *pro forma* assignment application with the Commission, attaching an exhibit which clearly specifies that the application is filed pursuant to a channel swap agreement.

38. *Effects on ITFS License Renewal.* Several commenters urge that it is important that we clarify that channel shifting, in particular, will not constitute a basis for, or be a factor in, a license renewal proceeding; the *Joint Statement* also contains a provision to this effect. This concern arises over possible effects of an ITFS licensee not providing any educational usage over its own licensed channels, even if it satisfies its educational usage requirements on other channels in the same wireless cable system. Because we recognize that two-way system design may be based largely on the implementation of channel shifting, and that wireless cable operators and their ITFS lessors may be deterred from utilizing these efficiencies without assurances that doing so will not have an adverse effect at the time the ITFS licensee seeks renewal, we amend § 74.931 to reflect that the fact that an ITFS licensee utilizes channel shifting, channel loading or channel mapping will not itself be considered adversely to the licensee in seeking a license renewal.

C. Autonomy of ITFS Licensees and Agency Role

39. When the Commission solicited comments in preparation for the *NPRM*, several of the ITFS parties who commented at that time expressed concern that the proposed two-way scheme presents threats to the independence of ITFS licensees and their future ability to use spectrum capacity for instructional purposes. Some of those concerned commenters focused on the effect that the proposed rules may have on the engineering autonomy of ITFS licensees. Concerned commenters also identified issues relating to possible encroachment upon the financial autonomy of ITFS licensees by implementation of the proposed two-way framework. While the Commission, in the *NPRM*, sought comment on the effects that cellularization would have on the engineering and financial autonomy of ITFS licensees, it also acknowledged that any proposed solutions inherently would implicate the fundamental question of what degree of oversight the Commission should maintain in regulating the wireless cable industry and ITFS. The Commission solicited views on this fundamental question, and on one of its principal offshoots, the question of what impact the proposed two-way rules should have on the Commission's requirements regarding excess capacity lease agreements.

40. The comments that we received in response to the *NPRM* evince many of the same concerns expressed by some of the ITFS commenting parties in earlier rounds of comment, and likewise are met with opposing comments conveying responses comparable to those previously conveyed. Some of our decisions in the *Order*, such as generally prohibiting involuntary modifications to ITFS stations in a two-way environment, should help address some of the concerns of ITFS licensees regarding their autonomy and ability to continue providing service should they no longer be in a relationship with a wireless cable operator. However, while we will continue to require certain provisions in excess capacity leases between ITFS licensees and wireless cable operators, and likewise will continue to prohibit certain provisions, we believe generally that ITFS licensees can—and should—in their negotiations with wireless cable operators arrange for lease terms that best protect their own individual interests and needs.

41. As a starting point, we reemphasize the Commission's declaration in the *NPRM* that cellularization by ITFS licensees is

permissive only, and not mandatory. In addition, we have decided to grant all ITFS licensees protected service area (psa) protection, in response to concerns over coercion such as those expressed by the Foundation, that otherwise there would be a disparity in interference protection between ITFS licensees that offer high-speed Internet service pursuant to a lease with a wireless cable operator, and ITFS licensees that provide exactly the same service on their own. We also reaffirm the ability of stand-alone ITFS licensees to provide communications services that are not specifically educational over their frequencies, so long as they meet the educational usage requirements set forth in our Rules.

42. *Engineering Autonomy.* We agree with the commenters who recognize that our requirement that each ITFS licensee retain 25% of its capacity for downstream transmissions will present significant assistance to ITFS licensees in continuing to provide downstream educational services. Nevertheless, we believe generally that post-relationship configuration issues should be arranged by the ITFS licensee in the course of negotiating the terms of its excess capacity lease with the wireless cable operator. We further conclude that, particularly in light of the primary educational function of ITFS licensees, where an ITFS licensee is not the source of transmissions over its licensed bandwidth, we will not regard the ITFS licensee as having legal control over the content of such transmissions. At most, an ITFS licensee's legal control over content transmitted over its authorized bandwidth is a contractual matter between the leasing parties.

43. *Financial Autonomy.* In the *NPRM*, the Commission sought comment on the concerns of several commenters at that stage of the proceeding that ITFS licensees will be unable to sever their relationship with the wireless cable operator and acquire the equipment to either continue cellular operations or return to non-two-way transmissions. While some commenters such as CTN, the Foundation, and SWM propose various regulatory solutions to these concerns, we agree with the commenters who argue that the ITFS licensee should address these concerns itself in its lease negotiations. Thus, we decline to adopt proposals to require that two-way wireless cable operators establish a performance bond or escrow account, with sufficient funds to ensure the uninterrupted operation of participating ITFS stations for a given period; or to have transmission systems transfer automatically to the ownership and

control of the ITFS licensee upon termination of the lease, or upon commencement of a lease term. However, consistent with current policy, we will require that each excess capacity lease contain a provision assuring the ITFS licensee's right to purchase the actual equipment, or equipment comparable to that, used by the ITFS licensee during the lease for educational purposes. This means, for example, that if the ITFS licensee was providing educational services during the lease period utilizing digital transmissions, the wireless cable operator is not obligated to retain analog transmission equipment for ITFS licensees seeking to return to traditional downstream analog transmissions. In addition, as requested by CTN, this required lease provision applies to dedicated or common equipment used for educational purposes. Nonetheless, as further indicated by CTN, negotiations between the parties to the lease still will be required to spell out the appropriate specific equipment that must be made available.

44. *Commission Role.* In the *NPRM*, the Commission described how in the past, it has adopted rules and procedures to accommodate and protect what has been viewed as the special needs of educational institutions and organizations, believing that educational institutions should be treated differently from commercial entities in many situations due to limited financial and staff resources. One of these protections has been required review by the staff of ITFS excess capacity lease agreements, for overly restrictive provisions affecting the licensee's rights and obligations and for compliance with the Commission's leasing policies. The Commission requested comment on whether parties should continue to be required to file written agreements governing the ITFS licensee's lease of excess capacity on its channels.

45. The comments that we received on this issue generally are split between those who believe that many ITFS licensees are well-funded, and those who believe that many still have very limited resources. Because we believe that many examples supporting both viewpoints exist, we find it still appropriate for us to maintain some degree of oversight regarding the relations between the wireless cable industry and ITFS, albeit a limited role which allows for maximum possible flexibility of the parties in establishing excess capacity lease provisions, while at the same time ensuring educational use of ITFS and a licensee's ability to continue uninterrupted in that use should its relationship with the wireless

cable operator terminate. In this regard, we will heed the prescriptions of the numerous commenters who request that we continue to review excess capacity leases for provisions overly restrictive of ITFS licensees and in order to police established safeguards, and require amendment of noncompliant leases. However, consistent with many of our decisions in the *Order* regarding the substance of such leases, we intend this review to be on a lesser scale than previously, and to be more deferential to the burdens and benefits which constitute the agreement between the parties to the leases, and to allowing flexibility in implementation of two-way services.

46. In the *NPRM*, the Commission tentatively rejected, but nonetheless sought comment on, a proposal, advanced by the Foundation, that the Commission require that two-way digital applications and interference consents be reviewed by legal and engineering counsel that do not represent commercial interests, and that these independent advisors certify that in their professional opinion the submission will not harm future instructional service. The Commission noted that past attempts to require all leasing parties to hire separate counsel have been declined by the Commission, having found this safeguard unnecessary and relying instead on the staff's review and monitoring of leases. After reviewing the comments on this issue, we continue to see no reason to change our position on this issue, and we decline to adopt the Foundation's proposal.

47. *Grandfathering of Excess Capacity Lease Provisions.* The *Joint Statement* recommends that excess capacity lease agreements that provide for digital usage and were entered into prior to release of the *Order* be "grandfathered for their duration." We seek to ensure a transition as smooth as possible to two-way operations, and we are persuaded by commenters such as Higher Education Alliance who describe how effectively requiring amendment of numerous existing leases could prove unduly burdensome to ITFS licensees and wireless cable operators who did not anticipate such changes. However, since the March 31, 1997 release of our Public Notice announcing the filing of the petition for rulemaking which initiated this proceeding, no party can be heard to argue that it did not have notice that ITFS/MDS two-operations were anticipated in the not-too-distant future. Thus, any excess capacity lease entered into, renewed, or extended after March 31, 1997 is expected to be brought into compliance immediately

with all of the rule changes and policies that are adopted here, as is each new such lease, renewal, or term extension from here onward. Finally, we emphasize that we will not adjudicate whether the provisions of any specific lease contemplated digital operations as a general matter. In the absence of resolution between the parties to the lease, we believe this issue to be a matter of contract law properly heard before a state tribunal. In framing our policies towards grandfathering of certain excess capacity leases, we have considered, and rejected, SWM's proposal that in order to protect the rights of incumbent ITFS licenses, the Commission require that leases approved or submitted under the previous rules "be amended to make clear that the wireless cable lessee and the ITFS licensee have together considered the rule changes adopted and made any appropriate changes to lease terms, prior to the commencement of commercial operations on the frequencies using cellularization, sectorization or differing channelization plans."

48. *Length of Leases.* The *Joint Statement* urges that the Commission allow excess capacity leases of up to 15 years duration, provided that any lease extending beyond the term of a licensee's authorization provides for termination of the lease in the event the Commission denies the subject station's application for renewal. Virtually all of the commenters who address this proposal support it, and we are adopting it. In doing so, we decline to adopt the Foundation's suggestion of maintaining the 10 year lease limit for downstream-only digital and analog systems, while allowing a 15 year limit for two-way systems.

49. *Other Lease Requirements.* Petitioners urge that the Commission reverse two policies which, Petitioners assert, were not formed in rulemaking proceedings: (1) Barring lease provisions that require an ITFS licensee to assign its remaining obligations under an excess capacity lease if it chooses to assign its underlying license; and (2) Rejecting lease provisions which require that an ITFS licensee, seeking to cease operating its facility during the excess capacity lease term, provide the wireless cable operator a reasonable opportunity to secure an eligible ITFS assignee before the license is returned to the Commission for cancellation. We believe that it is appropriate to continue our ban of provisions that would require an ITFS licensee to assign its remaining obligations under an excess capacity lease. However, henceforth we will allow provisions that would permit a

wireless cable operator to find a qualified ITFS assignee to assume the license prior to its cancellation, and we set forth guidelines to govern what constitutes acceptable such provisions.

50. The *Joint Statement* contains provisions which call for all excess capacity leases to state that the ITFS licensee "shall have the right to use any Internet services offered over the system at no greater than the lowest prevailing commercial rate and shall have reasonable access, at rates to be negotiated between the parties, to other services offered over the system (such as addressability and two-way capability)." Because we believe that these are best private contractual matters between the parties, we decline to implement these provisions of the *Joint Statement*.

D. ITFS Call Sign Transmission

51. In the *NPRM*, the Commission presented Petitioners' arguments that the burdens of continued enforcement of the ITFS call sign transmission requirement in a two-way environment will far outweigh the benefits. The Commission sought comment on the proposed elimination of § 74.982, and solicited alternative solutions for maintaining the accountability of ITFS licensees. The few commenters which addressed this proposal unanimously favored eliminating the call sign transmission requirement where digital transmissions are utilized. In a two-way environment, alleviation of interference problems primarily will be left to the wireless cable operator, because of all the coordination it must do to make a two-way system function properly. In recognition of this and the greater efficiency of digital transmissions, we believe that the burdens embedded in § 74.982, such as costs, outweigh the benefits of applying the rule to any ITFS station using any digital transmissions. Thus, any ITFS station using digital modulation, whether or not in a lease agreement with a wireless cable operator and whether or not in a two-way system, will be exempt from the requirements of § 74.982. However, because these costs would not be prohibitive to ITFS stations using only analog transmissions, and because the benefits of interference identification can still be realized economically where transmissions are in analog, we will retain § 74.982 and apply it to ITFS stations which transmit only in analog.

V. Final Regulatory Flexibility Analysis (FRFA)

52. As required by the Regulatory Flexibility Act (RFA), 5 U.S.C. § 603, an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *NPRM* in

this proceeding. The Commission sought written public comment on the proposals in the *NPRM*, including on the IRFA. The Commission's Final Regulatory Flexibility Analysis (FRFA) in this *Order* conforms to the RFA, as amended by the Contract With America Advancement Act of 1996.¹

A. Need for and Objectives of Action

53. In the *Order*, we amend parts 1, 21 and 74 of our Rules to enable MDS and ITFS licensees to provide two-way communication services. These services will be enhanced through the use of two-way audio, video and data communications from "response" stations, the use of booster stations with program origination capability in a cellular configuration designed to create spectrum flexibility through frequency reuse, and the use of variable bandwidth ("subchanneling" and "superchanneling") to create additional flexibility. We believe the final rule amendments will facilitate two-way transmission and other improvements to the MDS and ITFS services.

B. Significant Issues Raised by the Public in Response to the Initial Analysis

54. No comments were received specifically in response to the IRFA contained in the *NPRM*. However, some commenters did raise arguments concerning the effect that certain of our proposals may have on small entities.

55. As to whether we should increase educational usage requirements when ITFS licensees employ digital transmissions, Region IV argued that greater educational usage requirements would particularly burden small ITFS entities, by indirectly imposing financial and administrative burdens before these licensees are in a posture to assume such responsibilities.

56. With respect to whether we should adopt a rolling one-day filing window for the submission of two-way MDS and ITFS applications, the Alliance of MDS Licensees argued that such a system would place an unbearable burden on the limited resources of incumbents, resulting in large operators having an advantage over small operators.

C. Description and Number of Small Entities Involved

57. The RFA generally defines "small entity" as having the same meaning as the terms "small business," "small organization," and "small business

¹ Public Law 104-121, 110 Stat. 847 (1996) (CWAUSA); see generally 5 U.S.C. §§ 601 *et seq.* Title II of the CWAUSA is the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA).

concern.” 5 U.S.C. § 601(6). In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.² A small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA. Small Business Act, 15 U.S.C. § 632.

58. MDS: The Commission has defined “small entity” for the auction of MDS as an entity that, together with its affiliates, has average gross annual revenues that are not more than \$40 million for the preceding three calendar years. 47 CFR 21.961(b)(1). This definition of a small entity in the context of MDS auctions has been approved by the SBA. See *Amendment of Parts 21 and 74 of the Commission's Rules With Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act—Competitive Bidding*, MM Docket No. 94–31 and PP Docket No. 93–253, Report and Order, 10 FCC Rcd 9589 (1995), 60 FR 36524, Jul. 17, 1995. The Commission completed its MDS auction in March 1996 for authorizations in 493 basic trading areas (BTAs). Of 67 winning bidders, 61 qualified as small entities.³

59. MDS is also heavily encumbered with licensees of stations authorized prior to the auction. The SBA has developed a definition of small entities for pay television services, which includes all such companies generating \$11 million or less in annual receipts. 13 CFR 121.201. This definition includes multipoint distribution systems, and thus applies to MDS licensees and wireless cable operators which did not participate in the MDS auction. Information available to us indicates that there are 832 of these licensees and operators that do not generate revenue in excess of \$11 million annually. Therefore, for purposes of this FRFA, we find that there are approximately 892 small MDS providers as defined by the SBA and the

Commission's auction rules, and some of these providers may take advantage of our amended rules to provide two-way MDS.

60. ITFS: There are presently 2032 ITFS licensees. All but 100 of these licenses are held by educational institutions (these 100 fall in the MDS category, above). Educational institutions may be included in the definition of a small entity. See 5 U.S.C. §§ 601 (3)–(5). ITFS is a non-pay, non-commercial broadcast service that, depending on SBA categorization, has, as small entities, entities generating either \$10.5 million or less, or \$11.0 million or less, in annual receipts. See 13 CFR 121.210 (SIC 4833, 4841, and 4899). However, we do not collect, nor are we aware of other collections of, annual revenue data for ITFS licensees. Thus, we find that up to 1932 of these educational institutions are small entities that may take advantage of our amended rules to provide two-way ITFS.

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

61. The Order adopts the following proposals that include reporting, recordkeeping, and compliance requirements:

62. We required MDS and ITFS licensees employing two-way technology to attach labels to every subscriber transceiver in a conspicuous fashion. In addition, MDS and ITFS licensees employing two-way technology will be required to include a full explanation of the labels that appear on their transceivers, as well as reference to the applicable Commission guidelines, in the instruction manuals and other information accompanying their subscriber transceivers.

63. We required a hub station licensee to formally notify an ITFS licensee when a response station is being located in the vicinity of any of the ITFS licensee's receive sites. Specifically, we created a notification zone with a radius of 1960 feet around each registered ITFS receive site and we required that, at least 20 days prior to the activation of any response station within such a zone, the hub station licensee notify, by certified mail, the appropriate ITFS licensee.

64. In addition to required information contained on new FCC Form 331, we required applicants to submit additional data in specified formats and on diskettes accompanying the application forms.

65. While we do not ordinarily require applicants for minor changes to ITFS facilities to prepare interference

showings or serve them on potentially affected parties, we required the preparation and service of interference analyses by ITFS licensees who seek to use their associated I channels for downstream transmissions.

66. We will accept applications for MDS and ITFS response stations hubs or boosters via a rolling, one-day filing window. Each applicant will have to provide interference protection to all facilities existing or proposed prior to the filing of its application, but its application will take precedence over all subsequently filed applications. Applicants will be required to file their interference analyses, in both hard copy and on disk.

67. Applicants for two-way facilities will be required to certify that they have met all requirements regarding interference protection to existing and prior proposed facilities. The applicant will also be required to certify that it has served all potentially affected parties with copies of its application, and with its engineering analysis supporting its interference compliance claim.

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

68. The following steps were taken in the Order to minimize the significant economic impact on small entities:

69. The rule changes adopted in the Order to allow two-way operations for MDS and ITFS will simplify our licensing system and provide greater flexibility in the use of the allotted spectrum to licensees. It is expected that such changes will further eliminate market entry barriers for small entities.

70. By allowing for subchannelization, small entity licensees will be able to respond to the demands of the market and create an unlimited number of channels to carry their current and future communications needs. Allowing superchannelization will permit small entity licensees to combine their spectrum with other small entity licensees and create larger systems to meet their particular operations and to operate at greater speeds.

71. To permit small entity ITFS licensees with limited resources adequate time to evaluate a two-way applicant's proposed service plan, we adopted a certification procedure whereby applicants are required to certify that they have met all requirements regarding interference protection to existing and prior proposed facilities. The applicant will also be required to certify that it has served all potentially affected parties

² 5 U.S.C. § 601(3) (incorporating by reference the definition of “small business concern” in 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of small business applies unless an agency after consultation with the Office of Advocacy of the Small Business Administration and after an opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes definitions in the **Federal Register**.

³ One of these small entities, O'ahu Wireless Cable, Inc., was subsequently acquired by GTE Media Ventures, Inc., which did not qualify as a small entity for purposes of the MDS auction.

with copies of its application and with its engineering analysis supporting its interference compliance claim.

72. In an effort to minimize the impact of our new rules on educational ITFS licensees, many of whom are small entities, we determined that restricting ITFS eligible use to the downstream video/audio paradigm would preclude flexibility in service offerings for an ITFS licensee which leases excess channel capacity. We provided educational entities with additional flexibility to define what ITFS usage they regard as educational, in an effort to permit such entities to further their educational mission. We did not expand our minimum educational usage requirement for digital ITFS transmissions, and we added a requirement that 5 percent of an ITFS station's capacity be set aside for instructional purposes only.

73. The following significant alternatives were considered in the *Order*:

74. We declined to adopt CTN's suggestion that greater suppression of spurious emissions is needed on the order of -60 dB for response stations operating at $+48$ dBm, up to -75 dB for response stations operating at $+63$ dBm. We found that modifications made to the spectral mask for response stations would completely eliminate the requirements that were proposed for such emissions.

75. We did not adopt NextLevel's suggestion that a maximum suppression limit be placed on digital emitters, which would effectively remove the out-of-band attenuation requirements for power levels below a certain minimum. We found that such a relaxation of out-of-band limits, in the context of a cellularized CDMA system, could result in an adverse impact on the interference environment because, unlike other services, hundreds or thousands of low power emitters may be transmitting simultaneously and the combined effects of their out-of-band emissions could be significant.

76. In the *Order*, we adopted a Methodology for calculating the interference potential of response stations. We rejected CTN's request to protect hub receivers only to a distance of 35 miles and make them secondary beyond that distance. We concluded that such a step would render hubs extremely susceptible to interference and seriously degrade the communications capabilities and reliabilities within the hub's RSA. We did not adopt EDX Engineering's alternative to Petitioners' response station interference Methodology because, for many two-way system

configurations, EDX's interference calculations will inevitably give erroneous results, a shortcoming that was conceded by EDX itself. We also did not permit applicants to choose any methodology they wish for making interference calculations, as we found that this would drastically slow the evaluation of applications and almost certainly result in many Petitions to Deny, as licensees and applicants struggled to understand the differing and potentially incompatible assumptions and calculations incorporated into the various methodologies.

77. We also declined to adopt Spike's recommendation that hub stations be redefined to include transmitting capability. We found that this was not necessary because booster and primary stations may be co-located with hub stations to provide transmission capability, and permitting hubs to also transmit would simply add redundancy and unnecessary complexity to the interference protection requirements of the rules.

78. We denied CTN's request that guardbands be established separating upstream (response station) transmissions from downstream ITFS transmissions. We determined that CTN's first proposal, involving the creation of 24 MHz-wide guardbands, could result in partially or completely eliminating many MHz of potentially useful upstream spectrum on the speculative assumption that such action was necessary to protect ITFS receive sites from interference. We also declined to adopt CTN's subsequent proposals, involving 6 MHz guardbands, believing that it was not the case that the proposed response station interference Methodology is "unduly complex" and will be ineffective in determining interference when the potential victim ITFS receive site is within a hub station's RSA.

79. We did not adopt CTN's request for mandatory response station testing, as we found that it would impose an unnecessary burden on two-way licensees.

80. We denied CTN's request to reallocate all of the 125 kHz channels to ITFS and to use them solely for response transmissions. We found that reallocation and the complications associated with that is not necessary, and that allowing the I channels to be used for point-to-multipoint transmissions promotes greater options for two-way system design and more efficient use of the spectrum. For the same reasons, we declined to adopt CTN's suggestion that we render low power boosters secondary, and we also

declined to adopt Maryland's request that we mandate that any non-ITFS use of I channels licensed to an ITFS entity be secondary to ITFS use.

81. We rejected the automatic grant proposal made by the Petitioners for granting without review any unopposed two-way license application after a 60-day comment period. We also did not adopt the proposal specified in the *NPRM* to set up a system whereby the staff would fully review the filed applications and issue a grant or denial. Instead, we adopted a certification procedure whereby applicants certify that they have met the requirements regarding interference protection to existing and prior proposed facilities and have served copies of their applications on all affected parties. We determined that this approach was needed to facilitate two-way service to the public, and that without it, two-way service by MDS operators and/or ITFS licensees may not become a reality. The certification requirement would also protect the interests of ITFS licensees, many of whom do not have the time or resources to evaluate a two-way applicant's proposed service plan.

82. In the *Order*, we determined that parties will have 60 days from the date of the public notice to file petitions to deny against two-way applications. We decided that, due to the complex nature of the engineering to be filed, a 60 day petition to deny period is more reasonable than the usual 30 day period.

83. We did not adopt HITN's suggestion that we eliminate our rule that limits eligible ITFS educational service providers to accredited institutions. We found that the primary purpose of ITFS is, and always has been, to meet the needs of students enrolled in courses of formal instruction. Furthermore, we found that accredited schools have been the intended users of ITFS since the origin of the service.

84. We decided to subject ITFS high power booster stations to educational usage requirements, separate from those to which main ITFS stations are subject. We determined, however, not to subject ITFS response stations or response station hubs to educational usage requirements, because the ITFS licensee has no control over which upstream transmissions would qualify to satisfy the requirements.

85. We declined to adopt time-of-day requirements for measuring educational usage, in order to provide ITFS licensees with the maximum flexibility to determine which uses of their spectrum enhance their formal educational mission.

86. In the *Order*, we retained two different but complementary requirements of ITFS spectral usage: a minimum of 20 hours per channel per week for educational usage, and a minimum reservation of 5% of a licensee's capacity that it may not lease. We determined that both would be difficult to measure in light of the varied forms that such usage can take. We decided that the best course would be to rely on the good faith efforts of ITFS licensees to meet these requirements, and we did not institute any new, formal proof of compliance reporting submissions in this area.

F. Report to Congress

87. The Commission will send a copy of the *Order*, including this FRFA, in a report to be sent to Congress pursuant to the Small Business Regulatory Enforcement Fairness Act of 1996. See 5 USC § 801(a)(1)(A). In addition, the Commission will send a copy of the *Order*, including the FRFA, to the Chief Counsel for Advocacy of the Small Business Administration. A copy of the *Order* and FRFA (or summaries thereof) will also be published in the **Federal Register**. See 5 USC § 604(b).

VI. Procedural Matters

88. Accordingly, *it is ordered* that, pursuant to the authority contained in Sections 4(i) and (j), 301, 303(f), 303(g), 303(h), 303(j), 303(r), and 308(b) of the Communications Act of 1934, as amended, 47 USC §§ 154(i), 154(j), 301, 303(f), 303(g), 303(h), 303(j), 303(r), and

308(b), this *Order is adopted*, and parts 1, 21, and 74 of the Commission's Rules, 47 CFR 1, 21, and 74, *are amended* as set forth below.

89. *It is further ordered* that the Petition of Wireless Cable Ass'n Int'l for Reconsideration and Clarification, MM Docket No. 93-106 (filed August 12, 1994), and Petition of Alliance for Higher Education, *et al.*, MM Docket No. 93-106 (filed August 5, 1994), are granted to the extent described in the *Order* at note 230.

90. The action contained in the *Order* has been analyzed with respect to the Paperwork Reduction Act of 1995 and found to impose new or modified reporting and recordkeeping requirements or burdens on the public. Implementation of these new or modified reporting and recordkeeping requirements will be subject to approval by the Office of Management and Budget as prescribed by the Act. The new or modified paperwork requirements contained in this *Order* (which are subject to approval by the Office of Management and Budget) will go into effect upon OMB approval.

List of Subjects

47 CFR Part 1

Environmental impact statements.

47 CFR Part 21

Communications common carriers, Communications equipment, Reporting and recordkeeping requirements, Television.

47 CFR Part 74

Communications equipment, Education, Reporting and recordkeeping requirements, Television.

Federal Communications Commission.

Magalie Román Salas,
Secretary.

Rule Changes

Parts 1, 21 and 74 of Title 47 of the Code of Federal Regulations are amended as follows:

PART 1—PRACTICE AND PROCEDURE

1. The authority for part 1 continues to read as follows:

Authority: 15 U.S.C. 79 *et seq.*; 47 U.S.C. 151, 154(i), 154(j), 155, 225, and 303(r).

2. In § 1.1307, paragraph (b)(1), Table 1, right column is amended by adding the entry regarding MDS licensees directly following the existing reference to Multipoint Distribution Service building-mounted antennas, and by adding the entry regarding ITFS licensees directly following the existing reference to part 74, subpart I stations, to read as follows:

§ 1.1307 Actions that may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared.

* * * * *

(b) * * *

(1) * * *

TABLE 1.—TRANSMITTERS, FACILITIES AND OPERATIONS SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION

Service (title 47 CFR rule part)	Evaluation required if—						
	*	*	*	*	*	*	*
Multipoint Distribution Service (subpart K of part 21).	*	*	*	*			
	MDS licensees are required to attach a label to subscriber transceiver or transverter antennas that:						
	(1) provides adequate notice regarding potential radiofrequency safety hazards, e.g., information regarding the safe minimum separation distance required between users and transceiver antennas; and						
	(2) references the applicable FCC-adopted limits for radiofrequency exposure specified in § 1.1310.						
	*	*	*	*	*	*	*
Experimental, auxiliary, and special broadcast and other program distributional services (part 74).	*	*	*	*			
	ITFS licensees are required to attach a label to subscriber transceiver or transverter antennas that:						
	(1) provides adequate notice regarding potential radiofrequency safety hazards, e.g., information regarding the safe minimum separation distance required between users and transceiver antennas; and						
	(2) references the applicable FCC-adopted limits for radiofrequency exposure specified in § 1.1310.						
	*	*	*	*	*	*	*

PART 21—DOMESTIC PUBLIC FIXED RADIO SERVICES

3. The authority for part 21 continues to read as follows:

Authority: Secs. 1, 2, 4, 201–205, 208, 215, 218, 303, 307, 313, 403, 404, 410, 602, 48 Stat. as amended, 1064, 1066, 1070–1073, 1076, 1077, 1080, 1082, 1083, 1087, 1094, 1098, 1102; 47 U.S.C. 151, 154, 201–205, 208, 215, 218, 303, 307, 313, 314, 403, 404, 602; 47 U.S.C. 552, 554.

4. In § 21.2, the following definitions are added in alphabetical order, to read as follows:

§ 21.2 Definitions.

* * * * *

Booster service area. A geographic area to be designated by an applicant for a booster station, within which the booster station shall be entitled to protection against interference as set forth in this part. The booster service area must be specified by the applicant so as to not overlap the booster service area of any other booster authorized to or proposed by the applicant. However, a booster station may provide service to receive sites outside of its booster service area, at the licensee's risk of interference.

* * * * *

Channel. Unless otherwise specified, a channel under this part shall refer to a 6 MHz frequency block assigned pursuant to §§ 21.901(b) or 74.902(a) of this chapter.

* * * * *

Response station hub. A fixed facility licensed to an MDS licensee, and operated by an MDS licensee or the lessee of an MDS facility, for the reception of information transmitted by one or more MDS response stations that utilize digital modulation with uniform power spectral density. A response station hub licensed under this part may share facilities with other MDS response station hubs, ITFS response station hubs authorized pursuant to § 74.939 of this chapter, MDS signal booster stations, ITFS signal booster stations, MDS stations, and/or ITFS stations.

Response station hub license. A blanket license authorizing the operation of a single response station hub at a specific location and the operation of a specified number of associated digital response stations of one or more classes at unspecified locations within one or more regions of the response service area.

Sectorization. The use of an antenna system at an MDS station, booster station and/or response station hub that is capable of simultaneously transmitting multiple signals over the same frequencies to different portions of

the service area and/or simultaneously receiving multiple signals over the same frequencies from different portions of the service area.

* * * * *

4a. In § 21.2, the following definitions, in alphabetical order, are revised to read as follows:

Multichannel Multipoint Distribution Service (MMDS). Those Multipoint Distribution Service Channels that use the frequency band 2596 MHz to 2644 MHz and associated 125 kHz channels.

Multipoint Distribution Service (MDS). A domestic public radio service rendered on microwave frequencies from one or more fixed stations transmitting to multiple receiving facilities located at fixed points. MDS also may encompass transmissions from response stations to response station hubs or associated fixed stations.

Multipoint Distribution Service response station. A fixed station operated by an MDS licensee, the lessee of MDS channel capacity or a subscriber of either to communicate with a response station hub or associated MDS station. A response station under this part may share facilities with other MDS response stations and/or one or more Instructional Television Fixed Service (ITFS) response stations authorized pursuant to § 74.939 of this chapter or § 74.940 of this chapter.

* * * * *

Signal Booster Station. An MDS station licensed for use in accordance with § 21.913 that operates on one or more MDS channels. Signal booster stations are intended to augment service as part of a distributed transmission system where signal booster stations retransmit the signals of one or more MDS stations and/or originate transmissions on MDS channels. A signal booster station licensed under this part may share facilities with other MDS signal booster stations, ITFS signal booster stations authorized pursuant to § 74.985 of this chapter, MDS response station hubs and/or ITFS response station hubs.

* * * * *

5. In § 21.11, paragraphs (f) and (g) are redesignated as paragraphs (e) and (f), respectively, and the section heading, paragraphs (a) and (d), and newly redesignated paragraph (e) are revised, to read as follows:

§ 21.11 Miscellaneous forms.

(a) **Licensee qualifications.** FCC Form 430 ("Licensee Qualification Report") must be filed annually, no later than March 31 for the end of the preceding calendar year, unless the licensee operates solely on a common carrier

basis and service was not offered at any time during the preceding year. Each annual filing must include all changes of information required by FCC Form 430 that occurred during the preceding year. In those cases in which there has been no change in any of the required information, the applicant or licensee, in lieu of submitting a new form, may so notify the Commission by letter.

* * * * *

(d) **Assignment of license.** FCC Form 702 ("Application for Consent to Assignment of Radio Station Construction Authorization or License (for Stations in Services Other than Broadcast)") must be submitted to assign voluntarily (as by, for example, contract or other agreement) or involuntarily (as by, for example, death, bankruptcy, or legal disability) the station license or conditional license. In the case of involuntary assignment, the application must be filed within 30 days of the event causing the assignment. FCC Form 702 also must be used for nonsubstantial (*pro forma*) assignments. In addition, FCC Form 430 must be submitted by the proposed assignee unless such assignee has a current and substantially accurate report on file with the Commission. Whenever a group of station licenses or conditional licenses in the same radio service is to be assigned to a single assignee, a single "blanket" application may be filed to cover the entire group, if the application identifies each station by call sign and station location and if two copies are provided for each station affected. The assignment must be completed within 45 days from the date of authorization. Upon consummation of an approved assignment, the Commission must be notified by letter of the date of consummation within 10 days of its occurrence.

(e) **Transfer of control of corporation holding a conditional license or license.** FCC Form 704 ("Application for Consent to Transfer of Control") must be submitted in order to voluntarily or involuntarily transfer control (de jure or de facto) of a corporation holding any conditional licenses or licenses. In the case of involuntary transfer of control, the application must be filed within 30 days of the event causing the transfer of control. FCC Form 704 also must be used for nonsubstantial (*pro forma*) transfers of control. In addition, FCC Form 430 must be submitted by the proposed transferee unless such transferee has a current and substantially accurate report on file with the Commission. Whenever control of a corporation holding a group of station licenses or conditional licenses in the

same radio service is to be transferred to a single transferee, a single "blanket" application may be filed to cover the entire transfer, if the application identifies each station by call sign and station location and if two copies are provided for each station affected. The transfer must be completed within 45 days from the date of authorization. Upon consummation of an approved transfer, the Commission must be notified by letter of the date of consummation within 10 days of its occurrence.

* * * * *

6. In § 21.27, paragraph (d) is added, to read as follows:

§ 21.27 Public notice period.

* * * * *

(d) Notwithstanding any other provisions of this part, effective as of September 17, 1998, there shall be one one-week window, at such time as the Commission shall announce by public notice, for the filing of applications for high-power signal booster station, response station hub and I channels point-to-multipoint transmissions licenses, during which all applications shall be deemed to have been filed as of the same day for purposes of §§ 21.909, 21.913 and 74.939(l) of this chapter. Following the publication of a public notice announcing the tendering for filing of applications submitted during that window, applicants shall have a period of sixty (60) days to amend their applications, provided such amendments do not result in any increase in interference to any previously proposed or authorized station, or to facilities proposed during the window, absent consent of the applicant for or conditional licensee or licensee of the station that would receive such interference. At the conclusion of that sixty (60) day period, the Commission shall publish a public notice announcing the acceptance for filing of all applications submitted during the initial window, as amended during the sixty (60) day period. All petitions to deny such applications must be filed within sixty (60) days of such second public notice. On the sixty-first (61st) day after the publication of such second public notice, applications for new or modified response station hub, booster station and I channels point-to-multipoint transmissions licenses may be filed and will be processed in accordance with the provisions of §§ 21.909, 21.913 and 74.939(l) of this chapter. Notwithstanding § 21.31, each application submitted during the initial window shall be granted on the sixty-first (61st) day after the Commission

shall have given such public notice of its acceptance for filing, unless prior to such date either a party in interest timely files a formal petition to deny or for other relief pursuant to § 21.30(a), or the Commission notifies the applicant that its application will not be granted. Where an application is granted pursuant to the provisions of this paragraph, the conditional licensee or licensee shall maintain a copy of the application at the transmitter site or response station hub until such time as the Commission issues a license.

7. In § 21.30, paragraph (a)(4) is revised to read as follows:

§ 21.30 Opposition to applications.

(a) * * *

(4) Except as provided in § 21.902(i)(6) regarding Instructional Television Fixed Service licensees and conditional licensees, in § 21.909 regarding MDS response station hubs and in § 21.913 regarding MDS booster stations, be filed within thirty (30) days after the date of public notice announcing the acceptance for filing of any such application or major amendment thereto, or identifying the tentative selectee of a random selection proceeding in the Multichannel Multipoint Distribution Service or for Multipoint Distribution Service H-channel stations (unless the Commission otherwise extends the filing deadline); and

* * * * *

8. In § 21.31, paragraph (e)(6)(iv) is revised to read as follows:

§ 21.31 Mutually exclusive applications.

* * * * *

(e) * * *

(6) * * *

(iv) The change of status by an MDS applicant from common carrier to non-common carrier, from non-common carrier to common carrier, or from common carrier or non-common carrier to flexibility to alternate between common carrier and non-common carrier service.

9. In § 21.42, paragraph (b)(3) is revised, and paragraph (c)(8) is added, to read as follows:

§ 21.42 Certain modifications not requiring prior authorization.

* * * * *

(b) * * *

(3) The Commission is notified of changes made to facilities by the submission of a completed FCC Form 304 within thirty (30) days after the changes are made.

* * * * *

(c) * * *

(8) A change to a sectorized antenna system comprising an array of

directional antennas, provided that such system does not change polarization or result in an increase in radiated power by more than one dB in any direction; provided, however, that notice of such change is provided to the Commission on FCC Form 331 within ten (10) days of installation.

* * * * *

10. In § 21.101, paragraph (a), footnote 2 is revised to read as follows:

§ 21.101 Frequency tolerance.

(a) * * *

² Beginning November 1, 1991, equipment authorized to be operated in the frequency bands 2150–2162 MHz, 2596–2644 MHz, 2650–2656 MHz, 2662–2668 MHz, and 2674–2680 MHz for use in the Multipoint Distribution Service shall maintain a frequency tolerance within ± 1 kHz of the assigned frequency. MDS booster stations authorized pursuant to § 21.913(b) shall maintain a frequency tolerance within ± 1 kHz of the assigned frequencies. MDS booster stations authorized pursuant to § 21.913(e) and MDS response stations authorized pursuant to § 21.909 shall employ transmitters with sufficient frequency stability to ensure that the emission stays within the authorized bandwidth.

* * * * *

11. In § 21.118, paragraph (c) is revised to read as follows:

§ 21.118 Transmitter construction and installation.

* * * * *

(c) Each transmitter employed in these services shall be equipped with an appropriately labeled pilot lamp or meter which will provide continuous visual indication at the transmitter when its control circuits have been placed in a condition to activate the transmitter. Such requirement will not be applicable to MDS response stations or MDS booster stations authorized pursuant to § 21.913(e). In addition, facilities shall be provided at each transmitter to permit the transmitter to be turned on and off independently of any remote control circuits associated therewith.

* * * * *

12. Section 21.201 is revised to read as follows:

§ 21.201 Posting of station license.

Each licensee shall post at the station, the booster station authorized pursuant to § 21.913(b) or the MDS response station hub the name, address and telephone number of the custodian of the station license or other instrument of authorization if such license or instrument of authorization, or a clearly legible photocopy thereof, is not maintained at the station, booster

station or response station hub. Each operator of an MDS booster station authorized pursuant to § 21.913(e) shall post at the booster station the name, address and telephone number of the custodian of the notification filed pursuant to § 21.913(e) if such notification is not maintained at the station.

13. Section 21.304 is revised to read as follows:

§ 21.304 Tariffs, reports, and other material required to be submitted to the Commission.

Sections 1.771 through 1.815 of this chapter contain summaries of certain materials and reports, including schedule of charges and accounting and financial reports, which, when applicable, must be filed with the Commission. These requirements likewise shall apply to licensees which alternate between rendering service on a common carrier and non-common carrier basis.

14. Section 21.900 is revised to read as follows:

§ 21.900 Eligibility.

(a) Authorizations for stations in this service will be granted to existing and proposed communications common carriers and non-common carriers. An application will be granted only in cases where it can be shown that:

(1) The applicant is legally, financially, technically, and otherwise qualified to render the proposed service; and

(2) There are frequencies available to enable the applicant to render a satisfactory service; and

(3) The public interest, convenience and necessity would be served by a grant thereof.

(b) The applicant shall state whether service will be provided on a common carrier basis, a non-common carrier basis, or alternating between a common carrier and non-common carrier basis. In addition, an applicant proposing to provide any common carrier service whatsoever shall state whether there is any affiliation or relationship to any intended or likely subscriber or program originator.

15. In § 21.901, paragraphs (a), (b), and (d) and note 1 are revised, and new paragraph (g) is added, to read as follows:

§ 21.901 Frequencies.

(a) Frequencies in the bands 2150–2162 MHz, 2596–2644 MHz, 2650–2656 MHz, 2662–2668 MHz, 2674–2680 MHz and 2686–2690 MHz are available for assignment to fixed stations in this service. Frequencies in the band 2150–

2160 MHz are shared with nonbroadcast omnidirectional radio systems licensed under other parts of the Commission's Rules, and frequencies in the band 2160–2162 MHz are shared with directional radio systems authorized in other common carrier services.

Frequencies in the 2596–2644 MHz band are shared with Instructional Television Fixed Service stations licensed under part 74 of the Commission's Rules. Channels I5, I13, I6 and I14, listed in § 74.939(j) of this chapter, are assigned to fixed stations in the 2596–2620 band, and are shared with Instructional Television Fixed Service Stations licensed under part 74 of the Commission's Rules to operate in this band; grandfathered channels I21, I29, I22 and I30, listed in § 74.939(j) of this chapter, are licensed under part 21 or part 74 of the Commission's Rules, as applicable.

(b) Applicants may be assigned a channel(s) according to one of the following frequency plans:

(1) At 2150–2156 MHz (designated as Channel 1), or

(2) At 2156–2162 MHz (designated as Channel 2), or

(3) At 2156–2160 MHz (designated as Channel 2A), or

(4) At 2596–2602 MHz, 2608–2614 MHz, 2620–2626 MHz, and 2632–2638 MHz (designated as Channels E1, E2, E3 and E4, respectively, with the four channels to be designated the E-group channels), and Channels I5 and I13 listed in § 74.939(j) of this chapter,¹ or

(5) At 2602–2608 MHz, 2614–2620 MHz, 2626–2632 MHz and 2638–2644 MHz (designated as Channels F1, F2, F3 and F4, respectively, with the four channels to be designated the F-group channels), and Channels I6 and I14, listed in § 74.939(j) of this chapter,¹ or

(6) At 2650–2656 MHz, 2662–2668 MHz and 2674–2680 MHz (designated as Channels H1, H2 and H3, respectively, with the three channels to be designated the H-group channels).¹

(d) An MDS licensee or conditional licensee may apply to exchange evenly one or more of its assigned channels with another MDS licensee or conditional licensee in the same system, or with an ITFS licensee or conditional licensee in the same system where one or both parties utilizes digital transmissions or leases capacity to an operator which utilizes digital transmissions. The licensees or conditional licensees seeking to exchange channels shall file in tandem with the Commission separate pro forma assignment of license applications, each attaching an exhibit which clearly

specifies that the application is filed pursuant to a channel exchange agreement. The exchanged channel(s) shall be regulated according to the requirements applicable to the assignee.

* * * * *

(g) Frequencies in the bands 2150–2162 MHz, 2596–2644 MHz, 2650–2656 MHz, 2662–2668 MHz and 2674–2680 MHz are available for point-to-multipoint use and/or for communications between MDS response stations and response station hubs when authorized in accordance with the provisions of § 21.909, provided that such frequencies may be employed for MDS response stations only when transmitting using digital modulation.

¹ No 125 kHz channels are provided for Channels E3, E4, F3, F4, H1, H2 and H3, except for those grandfathered for Channels E3, E4, F3 and F4. The 125 kHz channels associated with Channels E3, E4, F3, F4, H1, H2 and H3 are allocated to the Private Operational Fixed Point-to-Point Microwave Service, pursuant to § 101.147(g) of this chapter.

16. In § 21.902, the section heading, paragraphs (b)(3), (b)(4) (b)(5)(i), (f)(1) and (f)(2) are revised, and new paragraphs (b)(7) and (l) are added, to read as follows:

§ 21.902 Interference.

* * * * *

(b) * * *

(3) Engineer the system to provide at least 45 dB of cochannel interference protection within the 56.33 km (35 mile) protected service area of any authorized or previously-proposed ITFS or incumbent MDS station, and at each previously-registered ITFS receive site (both stations utilizing 6 MHz bandwidths).

(4) Engineer the station to provide at least 0 dB of adjacent channel interference protection within the 56.33 km (35 mile) protected service area of any authorized or previously-proposed ITFS or incumbent MDS station, and at each previously-registered ITFS receive site (both stations utilizing 6 MHz bandwidths).

(5) (i) Engineer the station to limit the calculated free space power flux density to -73 dBW/m² (or the appropriate value for bandwidth other than 6 MHz) at the boundary of a 56.33 km (35 mile) protected service area, where there is an unobstructed signal path from the transmitting antenna to the boundary; or alternatively, obtain the written consent of the entity authorized for the adjoining area to exceed the -73 dBW/m² limiting signal strength at the common boundary.

* * * * *

(7) Notwithstanding the above, main, booster and response stations shall use the following formulas, as applicable, for determining compliance with: (1) Radiated field contour limits where bandwidths other than 6 MHz are employed at stations utilizing digital modulation with uniform power spectral density; and (2) Cochannel and adjacent channel D/U ratios where the bandwidths in use at the interfering and protected stations are unequal and both stations are utilizing digital modulation with uniform power spectral density or one station is utilizing such modulation and the other station is utilizing either 6 MHz NTSC analog modulation or 125 kHz analog modulation (1 channels only).

(i) Contour limit: $-73 \text{ dBW} + 10 \log (X/6)$, where X is the bandwidth in MHz of the digital channel.

(ii) Cochannel D/U: $45 \text{ dB} + 10 \log (X_1/X_2)$, where X1 is the bandwidth in MHz of the protected channel and X2 is the bandwidth in MHz of the interfering channel.

(iii) Adjacent channel D/U: $0 \text{ dB} + 10 \log (X_1/X_2)$, where X1 is the bandwidth in MHz of the protected channel and X2 is the bandwidth in MHz of the interfering channel.

* * * * *

(f) * * *

(1) Cochannel interference is defined as the ratio of the desired signal to the undesired signal present in the desired channel, at the output of a reference receiving antenna oriented to receive the maximum desired signal. Harmful interference will be considered present when a free space calculation for an unobstructed signal path determines that this ratio is less than 45 dB (both stations utilizing 6 MHz bandwidths).

(2) Adjacent channel interference is defined as the ratio of the desired signal to undesired signal present in an adjacent channel, at the output of a reference receiving antenna oriented to receive the maximum desired signal level.

(i) Harmful interference will be considered present when a free space calculation for an unobstructed signal path determines that this ratio is less than 0 dB (both stations utilizing 6 MHz bandwidths).

(ii) In the alternative, harmful interference will be considered present for an ITFS station constructed before May 26, 1983, when a free space calculation determines that this ratio is less than 10 dB (both stations utilizing 6 MHz bandwidths), unless:

(A) The individual receive site under consideration has been subsequently upgraded with up-to-date reception

equipment, in which case the ratio shall be less than 0 dB. Absent information presented to the contrary, however, the Commission will assume that reception equipment installation occurred simultaneously with original station equipment; or

(B) The license for an MDS station is conditioned on the proffer to the affected ITFS station licensee of equipment capable of providing a ratio of 0 dB or more at no expense to the ITFS station licensee, and also conditioned, if necessary, on the proffer of installation of such equipment; and there has been no showing by the affected ITFS station licensee demonstrating good cause and that the proposed equipment will not provide a ratio of 0 dB or more, or that installation of such equipment, at no expense to the ITFS station licensee, is not possible or has not been proffered.

* * * * *

(l) Specific rules relating to response station hubs, booster stations, and 125 kHz channels are set forth in §§ 21.909, 21.913, 21.940, 74.939 of this chapter, 74.940 of this chapter and 74.985 of this chapter. To the extent those specific rules are inconsistent with any rules set forth above, those specific rules shall control.

17. In § 21.903, paragraphs (a) and (b)(1) are revised, and new paragraph (d) is added, to read as follows:

§ 21.903 Purpose and permissible service.

(a) Multipoint Distribution Service channels are available for transmissions from MDS stations and associated MDS signal booster stations to receive locations, and from MDS response stations to response station hubs. When service is provided on a common carrier basis, subscriber supplied information is transmitted to points designated by the subscriber. When service is provided on a non-common carrier basis, transmissions may include information originated by persons other than the licensee, licensee-manipulated information supplied by other persons, or information originated by the licensee. Point-to-point radio return links from a subscriber's location to a MDS operator's facilities may also be authorized in the 18,580 through 18,820 MHz and 18,920 through 19,160 MHz bands. Rules governing such operation are contained in subpart I of part 101 of this chapter, the Point-to-Point Microwave Radio Service.

(b) * * *

(1) Unless service is rendered on a non-common carrier basis, the common carrier controls the operation of all receiving facilities (e.g., including any equipment necessary to convert the

signal to a standard television channel, but excluding the television receiver); and

* * * * *

(d) An MDS licensee also may apply for authorization by the Commission to alternate, without further authorization required, between rendering service on a common carrier and non-common carrier basis, provided that the licensee notify the Commission of any service status changes at least 30 days in advance of such changes.

18. Section 21.904 is revised to read as follows:

§ 21.904 Transmitter power.

(a) The maximum EIRP of an MDS main or booster station shall not exceed 33 dBW (or, when digital modulation with uniform power spectral density and subchannels or superchannels, or 125 kHz channels, are used, the appropriately adjusted value based upon the ratio of 6 MHz to the subchannel or superchannel, or 125 kHz, bandwidth), except as provided in paragraph (b) of this section.

(b) If a main or booster station sectorizes or otherwise uses one or more transmitting antennas with a non-omnidirectional horizontal plane radiation pattern, the maximum EIRP over a 6 MHz channel in dBW in a given direction shall be determined by the following formula:

$$\text{EIRP} = 33 \text{ dBW} + 10 \log (360 / \text{beamwidth})$$
 [where $10 \log (360 / \text{beamwidth}) \leq 6 \text{ dB}$]. Beamwidth is the total horizontal plane beamwidth of the individual transmitting antenna for the station or any sector measured at the half-power points. The first term of the equation above, 33 dBW, must be adjusted appropriately based upon the ratio of 6 MHz to the subchannel or superchannel, or 125 kHz, bandwidth.

(c) An increase in station transmitter power, above currently authorized or previously-proposed values, to the maximum values provided in paragraphs (a) and (b) of this section, may be authorized, if the requested power increase would not cause harmful interference to any authorized or previously-proposed, cochannel or adjacent channel station entitled to interference protection under the Commission's rules, or if an applicant demonstrates that:

(1) A station that must be protected from interference could eliminate that interference by increasing its power; and

(2) The interfered-with station may increase its own power consistent with

the rules and without causing interference to any MDS booster station or response station hub which operates as part of the same coordinated system as the interfered-with station; and

(3) The applicant requesting authorization of a power increase agrees to pay all expenses associated with the increase in power by the interfered-with station.

19. In § 21.905, paragraph (b) is revised, and new paragraph (d) is added, to read as follows:

§ 21.905 Emissions and bandwidth.

* * * * *

(b) Quadrature amplitude modulation, digital vestigial sideband modulation, quadrature phase shift key modulation and code division multiple access emissions may be employed, subject to compliance with the policies set forth in the *Declaratory Ruling and Order*, 11 FCC Rcd 18839 (1996). Different types of emissions may be authorized if the applicant describes fully the modulation and bandwidth desired and demonstrates that operation of the station will not cause impermissible interference. The licensee may subchannelize its authorized bandwidth, provided that digital modulation is employed and the aggregate power does not exceed the authorized power for the channel, and may utilize all or a portion of its authorized bandwidth for MDS response stations authorized pursuant to § 21.909. The licensee may also, jointly with affected adjacent channel licensees, transmit utilizing bandwidth in excess of its authorized frequencies, provided that digital modulation is employed, all power spectral density requirements set forth in this part are met and the out-of-band emissions restrictions set forth in § 21.908 are met at and beyond the edges of the channels employed. The wider channels thus created may be redivided to create narrower channels.

* * * * *

(d) Notwithstanding the above, any digital emission which meets the uniform power spectral density requirements of the *Declaratory Ruling and Order* may be used in the following circumstances:

(1) At any MDS main or booster station transmitter which is located more than 160.94 km (100 miles) from the nearest boundary of all cochannel and adjacent channel ITFS and MDS protected service areas, including Basic Trading Areas and Partitioned Service Areas; and

(2) At all MDS response station transmitters within a response service area if all points along the response service area boundary line are more

than 160.94 km (100 miles) from the nearest boundary of all cochannel and adjacent channel ITFS and MDS protected service areas, including Basic Trading Areas and Partitioned Service Areas; and

(3) At any MDS transmitter where all parties entitled by this part to interference protection from that transmitter have mutually consented to the use at that transmitter of such emissions.

20. In § 21.906, paragraphs (a) and (d) are revised to read as follows:

§ 21.906 Antennas.

(a) Transmitting antennas shall be omnidirectional, except that a directional antenna with a main beam sufficiently broad to provide adequate service may be used either to avoid possible interference with other users in the frequency band, or to provide coverage more consistent with distribution of potential receiving points. In lieu of an omnidirectional antenna, a station may employ an array of directional antennas in order to reuse spectrum efficiently. When an applicant proposes to employ a directional antenna, or a licensee notifies the Commission pursuant to § 21.42 of the installation of a sectorized antenna system, the applicant shall provide the Commission with information regarding the orientation of the directional antenna(s), expressed in degree of azimuth, with respect to true north, and the make and model of such antenna(s).

* * * * *

(d) Directive receiving antennas shall be used at all points other than response station hubs and shall be elevated no higher than necessary to assure adequate service. Receiving antenna height shall not exceed the height criteria of part 17 of this chapter, unless authorization for use of a specific maximum antenna height (above ground and above mean sea level) for each location has been obtained from the Commission prior to the erection of the antenna. Requests for such authorization shall show the inclusive dates of the proposed operation. (See part 17 of this chapter concerning the construction, marking and lighting of antenna structures.)

§ 21.907 [Removed]

21. Section 21.907 is removed.

22. In § 21.908, paragraph (b) is redesignated as paragraph (a), the section heading and newly redesignated paragraph (a) are revised, paragraphs (c) through (e) are removed, and new paragraphs (b) through (e) are added, to read as follows:

§ 21.908 Transmitting equipment.

(a) The maximum out-of-band power of an MDS station transmitter or booster transmitting on a single 6 MHz channel with an EIRP in excess of -9 dBW employing analog modulation shall be attenuated at the channel edges by at least 38 dB relative to the peak visual carrier, then linearly sloping from that level to at least 60 dB of attenuation at 1 MHz below the lower band edge and 0.5 MHz above the upper band edge, and attenuated at least 60 dB at all other frequencies. The maximum out-of-band power of an MDS station transmitter or booster transmitting on a single 6 MHz channel or a portion thereof with an EIRP in excess of -9 dBW (or, when subchannels are used, the appropriately adjusted value based upon the ratio of the channel-to-subchannel bandwidths) employing digital modulation shall be attenuated at the 6 MHz channel edges at least 25 dB relative to the licensed average 6 MHz channel power level, then attenuated along a linear slope to at least 40 dB at 250 kHz beyond the nearest channel edge, then attenuated along a linear slope from that level to at least 60 dB at 3 MHz above the upper and below the lower licensed channel edges, and attenuated at least 60 dB at all other frequencies. Notwithstanding the foregoing, in situations where an MDS station or booster station transmits, or where adjacent channel licensees jointly transmit, a single signal over more than one contiguous 6 MHz channel utilizing digital modulation with an EIRP in excess of -9 dBW (or, when subchannels or superchannels are used, the appropriately adjusted value based upon the ratio of 6 MHz to the subchannel or superchannel bandwidth), the maximum out-of-band power shall be attenuated at the channel edges of those combined channels at least 25 dB relative to the power level of each channel, then attenuated along a linear slope from that level to at least 40 dB at 250 kHz above or below the channel edges of those combined channels, then attenuated along a linear slope from that level to at least 60 dB at 3 MHz above the upper and below the lower edges of those combined channels, and attenuated at least 60 dB at all other frequencies. However, should harmful interference occur as a result of emissions outside the assigned channel, additional attenuation may be required. A transmitter licensed prior to November 1, 1991, that remains at the station site initially licensed, and does not comply with this paragraph, may continue to be used for its life if it does not cause harmful interference to the operation of any other licensee. Any

non-conforming transmitter replaced after November 1, 1991, must be replaced by a transmitter meeting the requirements of this paragraph.

(b) A booster transmitting on multiple contiguous or non-contiguous channels carrying separate signals (a "broadband" booster) with an EIRP in excess of -9 dBW per 6 MHz channel and employing analog, digital or a combination of these modulations shall have the following characteristics:

(1) For broadband boosters operating in the frequency range of 2.150–2.160/2 GHz, the maximum out-of-band power shall be attenuated at the upper and lower channel edges forming the band edges by at least 25 dB relative to the licensed analog peak visual carrier or digital average power level (or, when subchannels are used, the appropriately adjusted value based on upon the ratio of the channel-to-subchannel bandwidths), then linearly sloping from that level to at least 40 dB of attenuation at 0.25 MHz above and below the band edges, then linearly sloping from that level to at least 60 dB of attenuation at 3.0 MHz above and below the band edges, and attenuated at least 60 dB at all other frequencies.

(2) For broadband boosters operating in the frequency range of 2.500–2.690 GHz, the maximum out-of-band power shall be attenuated at the upper and lower channel edges forming the band edges by at least 25 dB relative to the licensed analog peak visual carrier or digital average power level (or, when subchannels are used, the appropriately adjusted value based on upon the ratio of the channel-to-subchannel bandwidths), then linearly sloping from that level to at least 40 dB of attenuation at 0.25 MHz above and below the band edges, then linearly sloping from that level to at least 50 dB of attenuation at 3.0 MHz above and below the band edges, then linearly sloping from that level to at least 60 dB of attenuation at 20 MHz above and below the band edges, and attenuated at least 60 dB at all other frequencies.

(3) Within unoccupied channels in the frequency range of 2.500–2.690 GHz, the maximum out-of-band power shall be attenuated at the upper and lower channel edges of an unoccupied channel by at least 25 dB relative to the licensed analog peak visual carrier power level or digital average power level of the occupied channels (or, when subchannels or 125 kHz channels are used, the appropriately adjusted value based upon the ratio of the channel-to-subchannel bandwidths), then linearly sloping from that level to at least 40 dB of attenuation at 0.25 MHz above and below the occupied channel edges, then

linearly sloping from that level to at least 50 dB of attenuation at 3.0 MHz above and below the occupied channel edges, and attenuated at least 50 dB at all other unoccupied frequencies.

(c) Boosters operating with an EIRP less than -9 dBW per 6 MHz channel shall have no particular out-of-band power attenuation requirement, except that if they cause harmful interference, their operation shall be terminated within 2 hours of notification by the Commission until the interference can be cured.

(d) The maximum out-of-band power of an MDS response station using all or part of a 6 MHz channel and employing digital modulation shall be attenuated at the 6 MHz channel edges at least 25 dB relative to the licensed average 6 MHz channel power level, then attenuated along a linear slope to at least 40 dB at 250 kHz beyond the nearest channel edge, then attenuated along a linear slope from that level to at least 60 dB at 3 MHz above the upper and below the lower licensed channel edges, and attenuated at least 60 dB at all other frequencies. Where MDS response stations with digital modulation utilize all or part of more than one contiguous 6 MHz channel to form a larger channel (e.g., a channel of width 12 MHz), the above-specified attenuations shall be applied only at the upper and lower edges of the overall combined channel. Notwithstanding these provisions, should harmful interference occur as a result of emissions outside the assigned channel(s), additional attenuation may be required by the Commission.

(e) In measuring compliance with the out-of-band emissions limitations, the licensee shall employ one of two methods in each instance: (1) absolute power measurement of the average signal power with one instrument, with measurement of the spectral attenuation on a separate instrument; or (2) relative measurement of both the average power and the spectral attenuation on a single instrument. The formula for absolute power measurements is to be used when the average signal power is found using a separate instrument, such as a power meter; the formula gives the amount by which the measured power value is to be attenuated to find the absolute power value to be used on the spectrum analyzer or equivalent instrument at the spectral point of concern. The formula for relative power measurements is to be used when the average signal power is found using the same instrument as used to measure the attenuation at the specified spectral points, and allows different resolution bandwidths to be applied to the two parts of the measurement; the formula gives the

required amplitude separation (in dB) between the flat top of the (digital) signal and the point of concern.

For absolute power measurements:

Attenuation in dB (below channel power) = $A + 10 \log (C_{BW} / R_{BW})$

For relative power measurements:

Attenuation in dB (below flat top) = $A + 10 \log (R_{BW1} / R_{BW2})$

Where:

A = Attenuation specified for spectral point (e.g., 25, 35, 40, 60 dB)

C_{BW} = Channel bandwidth (for absolute power measurements)

R_{BW} = Resolution bandwidth (for absolute power measurements)

R_{BW1} = Resolution bandwidth for flat top measurement (relative)

R_{BW2} = Resolution bandwidth for spectral point measurement (relative)

23. Section 21.909 is revised to read as follows:

§ 21.909 MDS response stations.

(a) An MDS response station is authorized to provide communication by voice, video and/or data signals with its associated MDS response station hub or MDS station. An MDS response station may be operated only by the licensee of an MDS station, by any lessee of the MDS station or response station hub, or by a subscriber of either. The authorized channel may be divided to provide distinct subchannels for each of more than one response station, provided that digital modulation is employed and the aggregate power does not exceed the authorized power for the channel. An MDS response station may also, jointly with other licensees, transmit utilizing bandwidth in excess of that authorized to the station, provided that digital modulation is employed, all power spectral density requirements set forth in this part are met, and the out-of-band emissions restrictions set forth in § 21.908(b) or paragraph (j) of this section are complied with. When a 125 kHz channel is employed for response communications, the specific channel which may be used by the response station is determined in accordance with §§ 21.901 and 74.939(j) of this chapter.

(b) MDS response stations that utilize the 2150–2162 MHz band, the 2500–2686 MHz band, and/or the 125 kHz channels may be installed and operated without an individual license, to communicate with a response station hub authorized under a response station hub license, provided that the conditions set forth in paragraph (g) of this section are complied with and that MDS response stations operating in the

2150–2162 MHz and/or 2500–2686 MHz band(s) employ only digital modulation with uniform power spectral density in accordance with the Commission's *Declaratory Ruling and Order*, 11 FCC Rcd 18839 (1996).

(c) An applicant for a response station hub license shall:

(1) File FCC Form 331 with Mellon Bank, and certify on that form that it has complied with the requirements of paragraphs (c)(2) and (d) of this section. Failure to certify compliance and to comply completely with the requirements of paragraphs (c)(2) and (d) of this section shall result in dismissal of the application or revocation of the response station hub license, and may result in imposition of a monetary forfeiture; and

(2) Submit to International Transcription Services, Inc. ("ITS"), 1231 20th Street, N.W., Washington, DC 20036, both in hard copy, and on a 3.5" computer diskette in ASCII, the following:

(i) Duplicates of the Form 331 filed with Mellon Bank; and

(ii) The data required by Appendix D to the *Report and Order* in MM Docket No. 97–217, FCC 98–231, "Methods for Predicting Interference from Response Station Transmitters and to Response Station Hubs and for Supplying Data on Response Station Systems"; and

(iii) The information, showings and certifications required by paragraph (d) of this section; and

(3) Submit to the Commission, only upon Commission staff request, duplicates of the submissions required by paragraph (c)(2) of this section.

(d) An applicant for a response station hub license shall, pursuant to paragraph (c)(2)(iii) of this section, submit to ITS the following:

(1) The geographic coordinates, street address, and the height of the center line of the reception antenna(s) above mean sea level for the proposed response station hub; and

(2) A specification of:

(i) the response service area in which the applicant or its lessee proposes to install MDS response stations to communicate with the response station hub, any regions into which the response service area will be subdivided for purposes of interference analysis, and any regional classes of response station characteristics which will be used to define the operating parameters of groups of response stations within each region for purposes of interference analysis, including:

(A) the maximum height above ground level of the transmission antenna that will be employed by any response station in the regional class

and that will be used in interference analyses; and

(B) the maximum equivalent isotropic radiated power (EIRP) that will be employed by any response station in the regional class and that will be used in interference analyses; and

(C) any sectorization that will be employed, including the polarization to be employed by response stations in each sector and the geographic orientation of the sector boundaries, and that will be used in interference analyses; and

(D) the combined worst-case outer envelope plot of the patterns of all models of response station transmission antennas that will be employed by any response station in the regional class to be used in interference analyses; and

(E) the maximum number of response stations that will be operated simultaneously in each region using the characteristics of each regional class applicable to each region.

(ii) the channel plan (including any guardbands at the edges of the channel) to be used by MDS response stations in communicating with each response station hub, including a statement as to whether the applicant will employ the same frequencies on which response stations will transmit to also transmit on a point-to-multipoint basis from an MDS station or MDS booster station; and

(3) A demonstration that:

(i) The proposed response station hub is within a protected service area, as defined in § 21.902(d) or § 21.933, to which the applicant is entitled either

(A) by virtue of its being the licensee of an incumbent MDS station whose channels are being converted for MDS response station use; or

(B) by virtue of its holding a Basic Trading Area or Partitioned Service Area authorization. In the case of an application for response stations to utilize one or more of the 125 kHz response channels, such demonstration shall establish that the response station hub is within the protected service area of the station authorized to utilize the associated E-Group or F-Group channel(s); and

(ii) The entire proposed response service area is within a protected service area to which the applicant is entitled either (A) by virtue of its being the licensee of an incumbent MDS station whose channels are being converted for MDS response station use; or (B) by virtue of its holding a Basic Trading Area or Partitioned Service Area authorization. In the alternative, the applicant may demonstrate that the licensee entitled to any cochannel protected service area which is overlapped by the proposed response

service area has consented to such overlap. In the case of an application for response stations to utilize one or more of the 125 kHz response channels, such demonstration shall establish that the response service area is entirely within the protected service area of the station authorized to utilize the associated E-Group or F-Group channel(s), or, in the alternative, that the licensee entitled to any cochannel protected service area which is overlapped by the proposed response service area has consented to such overlap; and

(iii) The combined signals of all simultaneously operating MDS response stations within all response service areas and oriented to transmit towards their respective response station hubs, and all cochannel MDS stations and booster stations licensed to or applied for by the applicant will not generate a power flux density in excess of -73 dBW/m² (or the pro rata power spectral density equivalent based on the bandwidth actually employed in those cases where less than a 6 MHz channel is to be employed) outside the boundaries of the applicant's protected service area, as measured at locations for which there is an unobstructed signal path, except to the extent that consent of affected licensees has been obtained or consents have been granted pursuant to paragraph (d)(3)(ii) of this section to an extension of the response service area beyond the boundaries of the protected service area; and

(iv) The combined signals of all simultaneously operating MDS response stations within all response service areas and oriented to transmit towards their respective response station hubs, and all cochannel MDS stations and booster stations licensed to or applied for by the applicant, will result in a desired to undesired signal ratio of at least 45 dB (or the appropriately adjusted value based upon the ratio of the channel-to-subchannel bandwidths):

(A) within the protected service area of any authorized or previously-proposed cochannel incumbent MDS or ITFS station with a 56.33 km (35 miles) protected service area with center coordinates located within 160.94 km (100 miles) of the proposed response station hub; and

(B) within the booster service area of any cochannel booster station entitled to such protection pursuant to §§ 21.913(f) or 74.985(f) of this chapter and located within 160.94 km (100 miles) of the proposed response station hub; and

(C) at any registered receive site of any authorized or previously-proposed cochannel ITFS station or booster station located within 160.94 km (100 miles) of the proposed response station

hub, or, in the alternative, that the licensee of or applicant for such cochannel station or hub consents to the application; and

(v) The combined signals of all simultaneously operating MDS response stations within all response service areas and oriented to transmit towards their respective response station hubs, and all cochannel MDS stations and booster stations licensed to or applied for by the applicant, will result in a desired to undesired signal ratio of at least 0 dB (or the appropriately adjusted value based upon the ratio of the channel to subchannel bandwidths):

(A) within the protected service area of any authorized or previously-proposed adjacent channel incumbent MDS or ITFS station with a 56.33 km (35 miles) protected service area with center coordinates located within 160.94 km (100 miles) of the proposed response station hub; and

(B) within the booster service area of any adjacent channel booster station entitled to such protection pursuant to §§ 21.913(f) or 74.985(f) of this chapter and located within 160.94 km (100 miles) of the proposed response station hub; and

(C) at any registered receive site of any authorized or previously-proposed adjacent channel ITFS station or booster station located within 160.94 km (100 miles) of the proposed response station hub, or, in the alternative, that the licensee of or applicant for such adjacent channel station or hub consents to the application; and

(vi) The combined signals of all simultaneously operating MDS response stations within all response service areas and oriented to transmit towards their respective response station hubs and all cochannel MDS stations and booster stations licensed to or applied for by the applicant will comply with the requirements of paragraph (i) of this section and § 74.939(i) of this chapter.

(4) A certification that the application has been served upon.

(i) The holder of any cochannel or adjacent channel authorization with a protected service area which is overlapped by the proposed response service area;

(ii) The holder of any cochannel or adjacent channel authorization with a protected service area that adjoins the applicant's protected service area;

(iii) The holder of a cochannel or adjacent channel authorization for any BTA or PSA inside whose boundaries are locations for which there is an unobstructed signal path for combined signals from within the response station hub applicant's protected service area; and

(iv) Every licensee of, or applicant for, any cochannel or adjacent channel, authorized or previously-proposed, incumbent MDS station with a 56.33 km (35 mile) protected service area with center coordinates located within 160.94 km (100 miles) of the proposed response station hub; and

(v) Every licensee of, or applicant for, any cochannel or adjacent channel, authorized or previously-proposed ITFS station (including any booster station or response station hub) located within 160.94 km (100 miles) of the proposed response station hub.

(e) Except as set forth in § 21.27(d), applications for response station hub licenses may be filed at any time. Notwithstanding any other provision of part 21 (including § 21.31), applications for response station hub licenses meeting the requirements of paragraph (c) of this section shall cut-off applications that are filed on a subsequent day for facilities that would cause harmful electromagnetic interference to the proposed response station hubs. A response station hub shall not be entitled to protection from interference caused by facilities proposed on or prior to the day the application for the response station hub license is filed. Response stations shall not be required to protect from interference facilities proposed on or after the day the application for the response station hub license is filed.

(f) Notwithstanding the provisions of § 21.30(b)(4) and except as set forth in § 21.27(d), any petition to deny an application for a response station hub license shall be filed no later than the sixtieth (60th) day after the date of public notice announcing the filing of such application or major amendment thereto. Notwithstanding § 21.31 and except as provided in § 21.27(d), an application for a response station hub license that meets the requirements of this section shall be granted on the sixty-first (61st) day after the Commission shall have given public notice of the acceptance for filing of it, or of a major amendment to it if such major amendment has been filed, unless prior to such date either a party in interest timely files a formal petition to deny or for other relief pursuant to § 21.30(a), or the Commission notifies the applicant that its application will not be granted. Where an application is granted pursuant to the provisions of this paragraph, the conditional licensee or licensee shall maintain a copy of the application at the response station hub until such time as the Commission issues a response station hub license.

(g) An MDS response station hub license shall be conditioned upon compliance with the following:

(1) No MDS response station shall be located beyond the response service area of the response station hub with which it communicates; and

(2) No MDS response station shall operate with a transmitter output power in excess of 2 watts; and

(3) No MDS response station shall operate with an EIRP in excess of that specified in the application for the response station hub pursuant to paragraph (d)(2)(i)(B) of this section for the particular regional class of characteristics with which the response station is associated, and such response station shall not operate at an excess of 33 dBW EIRP (or, when subchannels or superchannels, or 125 kHz channels, are used, the appropriately adjusted value based upon the ratio of 6 MHz to the subchannel or superchannel, or 125 kHz, bandwidth); and

(4) Each MDS response station shall employ a transmission antenna oriented towards the response station hub with which the MDS response station communicates, and such antenna shall be no less directional than the worst case outer envelope pattern specified in the application for the response station hub pursuant to paragraph (d)(2)(i)(D) of this section for the regional class of characteristics with which the response station is associated; and

(5) The combined out-of-band emissions of all response stations using all or part of one or multiple contiguous 6 MHz channels and employing digital modulation shall comply with § 21.908(d). The combined out-of-band emissions of all response stations using all or part of one or multiple contiguous 125 kHz channels shall comply with paragraph (j) of this section. However, should harmful interference occur as a result of emissions outside the assigned channel, additional attenuation may be required; and

(6) The response stations transmitting simultaneously at any time within any given region of the response service area utilized for purposes of analyzing the potential for interference by response stations shall conform to the numerical limits for each class of response station proposed in the application for the response station hub license. Notwithstanding the foregoing, the licensee of a response station hub license may alter the number of response stations of any class operated simultaneously in a given region, without prior Commission authorization, provided that the licensee:

(i) First notifies the Commission of the altered number of response stations of such class(es) to be operated simultaneously in such region, and certifies in that notification that it has complied with the requirements of paragraphs (g)(6)(ii) and (iii) of this section; and

(ii) Provides ITS with a copy of such notification and with an analysis establishing that such alteration will not result in any increase in interference to the protected service area or protected receive sites of any existing or previously-proposed, cochannel or adjacent channel MDS or ITFS station or booster station, to the protected service area of any MDS Basic Trading Area or Partitioned Service Area licensee entitled to protection pursuant to paragraph (d)(3) of this section, or to any existing or previously-proposed, cochannel or adjacent channel response station hub, or response station under § 21.940 or § 74.940 of this chapter; or that the applicant for or licensee of such facility has consented to such interference; and

(iii) Serves a copy of such notification and analysis upon each party entitled to be served pursuant to paragraph (d)(4) of this section; and

(iv) Submits to the Commission, only upon Commission staff request, duplicates of the submissions required by paragraph (g)(6)(ii) of this section; and

(7) Where an application is granted under this section, if a facility operated pursuant to that grant causes harmful, unauthorized interference to any cochannel or adjacent channel facility, it must promptly remedy the interference or immediately cease operations of the interfering facility, regardless of whether any petitions to deny or for other relief were filed against the application during the application process. The burden of proving that a facility operated under this section is not causing harmful, unauthorized interference lies on the licensee of the alleged interfering facility, following the filing of a documented complaint of interference by an affected party; and

(8) In the event any MDS or ITFS receive site suffers interference due to block downconverter overload, the licensee of each response station hub with a response service area within five miles of such receive site shall cooperate in good faith to expeditiously identify the source of the interference. Each licensee of a response station hub with an associated response station contributing to such interference shall bear the joint and several obligation to promptly remedy all interference

resulting from block downconverter overload at any ITFS receive site registered prior to the submission of the application for the response station hub license or at any receive site within an MDS or ITFS protected service area applied for prior to the submission of the application for the response station hub license, regardless of whether the receive site suffering the interference was constructed prior to or after the construction of the response station(s) causing the downconverter overload; provided, however, that the licensee of the registered ITFS receive site or the MDS or ITFS protected service area must cooperate fully and in good faith with efforts by the response station hub licensee to prevent interference before constructing response stations and/or to remedy interference that may occur. In the event that more than one response station hub licensee contributes to block downconverter interference at a MDS or ITFS receive site, the licensees of the contributing response station hubs shall cooperate in good faith to remedy promptly the interference.

(h) Applicants must comply with part 17 of this chapter concerning notification to the Federal Aviation Administration of proposed antenna construction or alteration.

(i) Response station hubs shall be protected from cochannel and adjacent channel interference in accordance with the following criteria:

(1) An applicant for any new or modified MDS or ITFS station (including any high-power booster station or response station hub) shall be required to demonstrate interference protection to a response station hub within 160.94 km (100 miles) of the proposed facilities. In lieu of the interference protection requirements set forth in §§ 21.902(b)(3) through (b)(5), 21.938(b)(1) and (2) and (c), and 74.903 of this chapter, such demonstration shall establish that the proposed facility will not increase the effective power flux density of the undesired signals generated by the proposed facility and any associated main stations, booster stations or response stations at the response station hub antenna for any sector. In lieu of the foregoing, an applicant for a new MDS or ITFS main station license or for a new or modified response station hub or booster license may demonstrate that the facility will not increase the noise floor at a reception antenna of the response station hub by more than 1 dB for cochannel signals and 45 dB for adjacent channel signals, provided that:

(i) The entity submitting the application may only invoke this

alternative once per response station hub reception sector; or

(ii) The licensee of the affected response station hub may consent to receive a certain amount of interference at its hub.

(2) Commencing upon the filing of an application for an MDS response station hub license and until such time as the application is dismissed or denied or, if the application is granted, a certification of completion of construction is filed, the MDS station whose channels are being utilized shall be entitled both to interference protection pursuant to §§ 21.902(b)(3) through (b)(5), 21.938(b)(1) and (2) and (c), and 74.903 of this chapter, and to protection of the response station hub pursuant to the preceding paragraph. Unless the application for the response station hub license specifies that the same frequencies also will be employed for digital and/or analog point-to-multipoint transmissions by MDS stations and/or MDS booster stations, upon the filing of a certification of completion of construction of an MDS response station hub where the channels of an MDS station are being utilized as response station transmit frequencies, the MDS station whose channels are being utilized for response station transmissions shall no longer be entitled to interference protection pursuant to §§ 21.902(b)(3) through (b)(5), 21.938(b)(1) and (2) and (c), and 74.903 of this chapter within the response service area with regard to any portion of any 6 MHz channel employed solely for response station communications. Upon the certification of completion of construction of an MDS response station hub where the channels of an MDS station are being utilized for response station transmissions and the application for the response station hub license specifies that the same frequencies will be employed for point-to-multipoint transmissions, the MDS station whose channels are being utilized shall be entitled both to interference protection pursuant to §§ 21.902(b)(3) through (b)(5), 21.938(b)(1) and (2) and (c), and 74.903 of this chapter, and to protection of the response station hub pursuant to the preceding provisions of this paragraph.

(j) 125 kHz wide response channels shall be subject to the following requirements: The 125 kHz wide channel shall be centered at the assigned frequency. If amplitude modulation is used, the carrier shall not be modulated in excess of 100%. If frequency modulation is used, the deviation shall not exceed ± 25 kHz. Any emissions outside the channel shall be

attenuated at the channel edges at least 35 dB below peak output power when analog modulation is employed or 35 dB below licensed average output power when digital modulation is employed (or, when subchannels are used, the appropriately adjusted value based upon the ratio of the channel-to-subchannel bandwidths). Any emissions more than 125 kHz from either channel edge, including harmonics, shall be attenuated at least 60 dB below peak output power when analog modulation is employed, or at least 60 dB below licensed average output power when digital modulation is employed (or, when subchannels are used, the appropriately adjusted value based upon the ratio of the channel-to-subchannel bandwidths).

Notwithstanding the foregoing, in situations where adjacent channel licensees jointly transmit over more than one contiguous channel utilizing digital modulation, the maximum out-of-band power shall be attenuated at the edges of those combined channels at least 35 dB relative to the licensed average power level of each channel. Emissions more than 125 kHz from either edge of the combined channels, including harmonics, shall be attenuated at least 60 dB below peak analog power or average digital power of each channel, as appropriate.

(k) A response station may be operated unattended. The overall performance of the response station transmitter shall be checked by the hub licensee as often as necessary to ensure that it is functioning in accordance with the requirements of the Commission's rules. The licensee of a response station hub is responsible for the proper operation of all associated response stations and must have reasonable and timely access to all associated response station transmitters. Response stations shall be installed and maintained by the licensee of the associated hub station, or the licensee's employees or agents, and protected in such manner as to prevent tampering or operation by unauthorized persons. No response hub may lawfully communicate with any response station which has not been installed by an authorized person, and each response station hub licensee is responsible for maintaining, and making available to the Commission upon request, a list containing the customer name and site location (street address and latitude/longitude to the nearest second) of each associated response station, plus the technical parameters (e.g., EIRP, emission, bandwidth, and antenna pattern, height, orientation and

polarization) pertinent to each specific response station.

(l) The transmitting apparatus employed at MDS response stations shall have received type certification.

(m) An MDS response station shall be operated only when engaged in communication with its associated MDS response station hub or MDS station, or for necessary equipment or system tests and adjustments. Radiation of an unmodulated carrier and other unnecessary transmissions are forbidden.

(n) At least 20 days prior to the activation of a response station transmitter located within a radius of 1960 feet of a registered or previously-applied-for ITFS receive site, the response station hub licensee must notify, by certified mail, the licensee of the ITFS site of the intention to activate the response station. The notification must contain the street address and geographic coordinates (to the nearest second) of the response station, a specification of the station's EIRP, antenna pattern/orientation/height AMSL, channel(s) to be used, as well as the name and telephone number of a contact person who will be responsible for coordinating the resolution of any interference problems.

(o) Interference calculations shall be performed in accordance with Appendix D to the *Report and Order* in MM Docket No. 97-217, FCC 98-231, "Methods for Predicting Interference From Response Station Transmitters and To Response Station Hubs and for Supplying Data on Response Station Systems." Compliance with the out-of-band emissions limitations shall be established in accordance with § 21.908(e).

24. In § 21.910, the section heading and introductory text, paragraph (a), and the introductory text of paragraph (b) are revised, and new paragraph (d) is added, to read as follows:

§ 21.910 Special procedures for discontinuance, reduction or impairment of service by common carrier licensees.

Any licensee who has elected common carrier status and who seeks to discontinue service on a common carrier basis and instead provide service on a non-common carrier basis, or who otherwise intends to reduce or impair service, shall be subject to the following procedures:

(a) The carrier shall notify all affected customers of the planned discontinuance, reduction or impairment. Notice shall be in writing to each affected customer unless the Commission authorizes in advance, for good cause shown, another form of

notice. Notice shall include the following:

- (1) Name and address of carrier; and
- (2) Date of planned service discontinuance, reduction or impairment; and
- (3) Points or geographic areas of service affected; and
- (4) How many and which channels are affected; and
- (5) The following statement:

The FCC normally will authorize this proposed discontinuance of service (or reduction or impairment) unless it is shown that end-users will be affected adversely thereby. Affected customers wishing to object should file objections within 45 days after receipt of this notification, and address them to the Video Services Division, Federal Communications Commission, Washington, DC 20554, referencing the § 21.910 Application of (carrier's name). Comments should include specific information about the impact of this proposed discontinuance (or reduction or impairment) upon end-users, including any inability by the customer to acquire reasonable substitute service from another provider. The affected customer must state that it has provided a copy of the objection to the carrier seeking discontinuance.

(b) The carrier shall file with this Commission, on or after the date on which notice has been given to all affected customers, an application which shall contain the following:

* * * * *

(d) The provisions of this section shall not apply to licensees authorized by the Commission to alternate, without further authorization required, between rendering service on a common carrier and non-common carrier basis.

25. Section 21.913 is revised to read as follows:

§ 21.913 Signal booster stations.

(a) An MDS booster station may reuse channels to repeat the signals of MDS stations or to originate signals on MDS channels. The aggregate power flux density generated by an MDS station and all associated signal booster stations and all simultaneously operating cochannel response stations may not exceed -73 dBW/m² (or, when subchannels or 125 kHz channels are used, the appropriately adjusted value based upon the ratio of the channel-to-subchannel or 125 kHz bandwidths) at or beyond the boundary of the protected service area, as defined in §§ 21.902(d) and 21.933, of the main MDS station whose channels are being reused, as measured at locations for which there is an unobstructed signal path, unless the consent of the affected cochannel licensee is obtained.

(b) An MDS licensee or conditional licensee who is a response station hub

licensee, conditional licensee or applicant may secure a license for an MDS signal booster station that has a maximum power level in excess of -9 dBW EIRP (or, when subchannels or superchannels, or 125 kHz channels, are used, the appropriately adjusted value based upon the ratio of 6 MHz to the subchannel or superchannel, or 125 kHz, bandwidth) and that employs only digital modulation with uniform power spectral density in accordance with the Commission's *Declaratory Ruling and Order*, 11 FCC Rcd 18839 (1996) (a "high-power MDS signal booster station"). The applicant for a high-power MDS signal booster station shall file FCC Form 331 with Mellon Bank, and certify on that form that the applicant has complied with the additional requirements of paragraph (b) of this section. Failure to certify compliance and to comply completely with the following requirements of paragraph (b) of this section shall result in dismissal of the application or revocation of the high-power MDS signal booster station license, and may result in imposition of a monetary forfeiture. The applicant for a high-power MDS signal booster station additionally is required to submit to International Transcription Services, Inc., 1231 20th Street, N.W., Washington, DC 20036, both in hard copy, and on a 3.5" computer diskette in ASCII, and likewise to submit to the Commission, only upon Commission staff request, duplicates of the Form 331 filed with Mellon Bank, and the following information:

(1) A demonstration that the proposed signal booster station site is within the protected service area, as defined in §§ 21.902(d) and 21.933, of the MDS station whose channels are to be reused; and

(2) A study which demonstrates that the aggregate power flux density of the MDS station and all associated booster stations and simultaneously operating cochannel response stations licensed to or applied for by the applicant, measured at or beyond the boundary of the protected service area of the MDS station whose channels are to be reused, does not exceed -73 dBW/m² (or, when subchannels or 125 kHz channels are used, the appropriately adjusted value based upon the ratio of the channel-to-subchannel or 125 kHz bandwidths) at locations for which there is an unobstructed signal path, unless the consent of the affected licensees has been obtained; and

(3) In lieu of the requirements of § 21.902(c) and (i), a study which demonstrates that the proposed booster station will cause no harmful

interference (as defined in § 21.902(f)) to cochannel and adjacent channel, authorized or previously-proposed ITFS and MDS stations with protected service area center coordinates as specified in § 21.902(d), to any authorized or previously-proposed response station hubs, booster stations or I channel stations associated with such ITFS and MDS stations, or to any previously-registered ITFS receive sites, within 160.94 kilometers (100 miles) of the proposed booster station's transmitter site. Such study shall consider the undesired signal levels generated by the proposed signal booster station, the main station, all other licensed or previously-proposed associated booster stations, and all simultaneously operating cochannel response stations licensed to or applied for by the applicant. In the alternative, a statement from the affected MDS or ITFS licensee or conditional licensee stating that it does not object to operation of the high-power MDS signal booster station may be submitted; and

(4) A description of the booster service area; and

(5) A demonstration either

(i) That the booster service area is entirely within the protected service area to which the licensee of a station whose channels are being reused is entitled by virtue of its being the licensee of an incumbent MDS station, or by virtue of its holding a Basic Trading Area or Partitioned Service Area authorization; or

(ii) That the licensee entitled to any cochannel protected service area which is overlapped by the proposed booster service area has consented to such overlap; and

(6) A demonstration that the proposed booster service area can be served by the proposed booster without interference; and

(7) A certification that copies of the materials set forth in paragraph (b) of this section have been served upon the licensee or conditional licensee of each station (including each response station hub and booster station) required to be studied pursuant to paragraph (b)(3) of this section, and upon any affected holder of a Basic Trading Area or Partitioned Service Area authorization pursuant to paragraph (b)(2) of this section.

(c) Except as provided in § 21.27(d), applications for high-power MDS signal booster station licenses may be filed at any time. Notwithstanding any other provision of part 21 (including § 21.31), applications for high-power MDS signal booster station licenses meeting the requirements of paragraph (b) of this section shall cut-off applications that

are filed on a subsequent day for facilities that would cause harmful electromagnetic interference to the proposed booster stations.

(d) Notwithstanding the provisions of § 21.30(a)(4) and except as provided in § 21.27(d), any petition to deny an application for a high-power MDS signal booster station license shall be filed no later than the sixtieth (60th) day after the date of public notice announcing the filing of such application or major amendment thereto. Notwithstanding § 21.31 and except as provided in § 21.27(d), an application for a high-power MDS signal booster station license that meets the requirements of paragraph (b) of this section shall be granted on the sixty-first (61st) day after the Commission shall have given public notice of the acceptance for filing of it, or of a major amendment to it if such major amendment has been filed, unless prior to such date either a party in interest timely files a formal petition to deny or for other relief pursuant to § 21.30(a), or the Commission notifies the applicant that its application will not be granted. Where an application is granted pursuant to the provisions of this paragraph, the conditional licensee or licensee shall maintain a copy of the application at the MDS booster station until such time as the Commission issues a high-power MDS signal booster station license.

(e) Eligibility for a license for an MDS signal booster station that has a maximum power level of -9 dBW EIRP (or, when subchannels or superchannels, or 125 kHz channels, are used, the appropriately adjusted value based upon the ratio of 6 MHz to the subchannel or superchannel, or 125 kHz, bandwidth) (a "low-power MDS signal booster station") shall be restricted to an MDS licensee or conditional licensee. A low-power MDS signal booster station may operate only on one or more MDS channels that are licensed to the licensee of the MDS booster station, but may be operated by a third party with a fully-executed lease or consent agreement with the MDS conditional licensee or licensee. An MDS licensee or conditional licensee may install and commence operation of a low-power MDS signal booster station for the purpose of retransmitting the signals of the MDS station or for originating signals. Such installation and operation shall be subject to the condition that for sixty (60) days after installation and commencement of operation, no objection or petition to deny is filed by an authorized cochannel or adjacent channel ITFS or MDS station with a transmitter within 8.0 kilometers (5 miles) of the

coordinates of the low-power MDS signal booster station. An MDS licensee or conditional licensee seeking to install a low-power MDS signal booster station under this rule must, within 48 hours after installation, submit FCC Form 331 to the Commission in Washington, DC, and submit to International Transcription Services, Inc., 1231 20th Street, N.W., Washington, DC 20036, both in hard copy, and on a 3.5" computer diskette in ASCII, duplicates of the Form 331 filed with the Commission, and the following (which also shall be submitted to the Commission only upon Commission staff request at any time):

(1) A description of the signal booster technical specifications (including an antenna envelope plot or, if the envelope plot is on file with the Commission, the make and model of the antenna, antenna gain and azimuth), the coordinates of the booster, the height of the center of radiation above mean sea level, the street address of the signal booster and a description of the booster service area; and

(2) A demonstration either

(i) That the booster service area is entirely within the protected service area to which each licensee of a station whose channels are being reused is entitled by virtue of its being the licensee of an incumbent MDS station, or by virtue of its holding a Basic Trading Area or Partitioned Service Area authorization; or

(ii) That the licensee entitled to any cochannel protected service area which is overlapped by the proposed booster service area has consented to such overlap; and

(3) A demonstration that the proposed booster service area can be served by the proposed booster without interference; and

(4) A certification that no Federal Aviation Administration determination of No Hazard to Air Navigation is required under part 17 of this chapter or, if such determination is required, either:

(i) A statement of the FCC Antenna Structure Registration Number; or

(ii) If an FCC Antenna Structure Registration Number has not been assigned for the antenna structure, the filer must indicate the date the application by the antenna structure owner to register the antenna structure was filed with the FCC in accordance with part 17 of this chapter; and

(5) A certification that:

(i) The maximum power level of the signal booster transmitter does not exceed -9 dBW EIRP (or, when subchannels or superchannels, or 125 kHz channels, are used, the

appropriately adjusted value based upon the ratio of 6 MHz to the subchannel or superchannel, or 125 kHz, bandwidth); and

(ii) Where the booster is operating on channel D4, E1, F1, E2, F2, E3, F3, E4, F4 and/or G1, no registered receiver of an ITFS E or F channel station, constructed prior to May 26, 1983, is located within a 1.61 km (1 mile) radius of the coordinates of the booster, or in the alternative, that a consent statement has been obtained from the affected ITFS licensee; and

(iii) The applicant has complied with § 1.1307 of this chapter; and

(iv) Each MDS and/or ITFS station licensee (including the licensees of booster stations and response station hubs) with protected service areas and/or registered receivers within a 8 km (5 mile) radius of the coordinates of the booster has been given notice of its installation; and

(v) The signal booster site is within the protected service area of the MDS station whose channels are to be reused; and

(vi) The aggregate power flux density of the MDS station and all associated booster stations and simultaneously operating cochannel response stations licensed to or applied for by the applicant, measured at or beyond the boundary of the protected service areas of the MDS stations whose channels are to be reused, does not exceed -73 dBW/m² (or, when subchannels or 125 kHz channels are used, the appropriately adjusted value based upon the ratio of the channel-to-subchannel or 125 kHz bandwidths) at locations for which there is an unobstructed signal path, unless the consent of the affected licensees has been obtained; and

(vii) The antenna structure will extend less than 6.10 meters (20 feet) above the ground or natural formation or less than 6.10 meters (20 feet) above an existing manmade structure (other than an antenna structure); and

(viii) The MDS conditional licensee or licensee understands and agrees that, in the event harmful interference is claimed by the filing of an objection or petition to deny, the conditional licensee or licensee must terminate operation within two (2) hours of notification by the Commission, and must not recommence operation until receipt of written authorization to do so by the Commission.

(f) Commencing upon the filing of an application for a high-power MDS signal booster station license and until such time as the application is dismissed or denied or, if the application is granted, a certification of completion of

construction is filed, an applicant for any new or modified MDS or ITFS station (including a response station hub, high-power booster station, or I Channels station) shall demonstrate compliance with the interference protection requirements set forth in §§ 21.902 (b)(3) through (b)(5), 21.938 (b) (1) and (2) and (c), or 74.903 of this chapter with respect to any previously-proposed or authorized booster service area both using the transmission parameters of the high-power MDS signal booster station (e.g., EIRP, polarization(s) and antenna height) and the transmission parameters of the MDS station whose channels are to be reused by the high-power MDS signal booster station. Upon the filing of a certification of completion of construction of an MDS booster station applied for pursuant to paragraph (b) of this section, or upon the submission of an MDS booster station notification pursuant to paragraph (e) of this section, the MDS station whose channels are being reused by the MDS signal booster shall no longer be entitled to interference protection pursuant to §§ 21.902 (b)(3) through (b)(5), 21.938 (b) (1) and (2) and (c), and 74.903 of this chapter within the booster service area based on the transmission parameters of the MDS station whose channels are being reused. A booster station shall not be entitled to protection from interference caused by facilities proposed on or prior to the day the application or notification for the booster station is filed. A booster station shall not be required to protect from interference facilities proposed on or after the day the application or notification for the booster station is filed.

(g) Where an application is granted under paragraph (d) of this section, if a facility operated pursuant to that grant causes harmful, unauthorized interference to any cochannel or adjacent channel facility, it must promptly remedy the interference or immediately cease operations of the interfering facility, regardless of whether any petitions to deny or for other relief were filed against the application during the application process. The burden of proving that a high-power MDS signal booster station is not causing harmful, unauthorized interference lies on the licensee of the alleged interfering facility, following the filing of a documented complaint of interference by an affected party.

(h) In the event any MDS or ITFS receive site suffers interference due to block downconverter overload, the licensee of each signal booster station within five miles of such receive site shall cooperate in good faith to

expeditiously identify the source of the interference. Each licensee of a signal booster station contributing to such interference shall bear the joint and several obligation to promptly remedy all interference resulting from block downconverter overload at any ITFS receive site registered prior to the submission of the application or notification for the signal booster station or at any receive site within an MDS or ITFS protected service area applied for prior to the submission of the application or notification for the signal booster station, regardless of whether the receive site suffering the interference was constructed prior to or after the construction of the signal booster station(s) causing the downconverter overload; provided, however, that the licensee of the registered ITFS receive site or the MDS or ITFS protected service area must cooperate fully and in good faith with efforts by the signal booster station licensee to prevent interference before constructing the signal booster station and/or to remedy interference that may occur. In the event that more than one signal booster station licensee contributes to block downconverter interference at a MDS or ITFS receive site, the licensees of the contributing signal booster stations shall cooperate in good faith to remedy promptly the interference.

26. In § 21.925, paragraph (b) is revised to read as follows:

§ 21.925 Applications for BTA authorizations and MDS station licenses.

* * * * *

(b) Separate long-form applications must be filed for each individual MDS station license sought within the protected service area of a BTA or PSA, including:

(1) An application for each E-channel group, F-channel group, and single H, 1, and 2A channel station license sought;

(2) An application for each site where one or more MDS response station hub license(s) is/are sought, provided that the technical parameters of each MDS response station hub are the same;

(3) An application for each site where one or more MDS booster station(s) will operate with an EIRP in excess of -9 dBW (or, when subchannels or superchannels, or 125 kHz channels, are used, the appropriately adjusted value based upon the ratio of 6 MHz to the subchannel or superchannel, or 125 kHz, bandwidth);

(4) An application for authority to operate at an MDS station in the area vacated by an MDS station incumbent that has forfeited its station license; and

(5) An application for each ITFS-channel group station license sought in accordance with §§ 74.990 and 74.991 of this chapter.

* * * * *

27. In § 21.938, paragraph (b) introductory text, and paragraphs (c)(4), (e) and (f), are revised to read as follows:

§ 21.938 BTA and PSA technical and interference provisions.

* * * * *

(b) Unless the affected parties have executed a written interference agreement in accordance with § 21.937, and subject to the provisions of §§ 21.909, 21.913, 21.940, 74.939 of this chapter, 74.940 of this chapter and 74.985 of this chapter regarding the protection of response station hubs, booster service areas and 125 kHz channels from harmful electromagnetic interference, stations licensed to a BTA or PSA authorization holder must not cause harmful electromagnetic interference to the following:

* * *

(c) * * *

(4) An ITFS station authorized before September 15, 1995 may be modified, provided the power flux density of that station does not exceed -73 dBW/m² (or the appropriate value for bandwidth other than 6 MHz) at locations along the 56.33 km (35 mile) circle centered on the then-existing transmitting antenna site or service area of a collocated incumbent MDS station, as applicable.

* * * * *

(e) Unless specifically excepted, BTA or PSA authorization holders are governed by the interference protection and other technical provisions applicable to MDS.

(f) The calculated free space power flux density from an MDS station, other than an incumbent MDS station, may not exceed -73 dBW/m² (or the appropriate value for bandwidth other than 6 MHz) at locations on BTA or PSA boundaries for which there is an unobstructed signal path from the transmitting antenna to the boundary, unless the applicant has obtained the written consent of the authorization holder for the affected BTA or PSA.

* * * * *

28. New § 21.940 is added, to read as follows:

§ 21.940 Individually licensed 125 kHz channel MDS response stations.

(a) The provisions of § 21.909(a), (e), (h), (j), (l) and (m), and § 74.939(j) of this chapter, also shall apply with respect to authorization of a 125 kHz channel(s) MDS response station not under a response station hub license. The applicant shall comply with the

requirements of § 21.902, and § 21.938 where appropriate, including the provisions of §§ 21.909, 21.913, 74.939 of this chapter and 74.985 of this chapter regarding the protection of response station hubs and booster service areas from harmful electromagnetic interference, using the appropriately adjusted interference protection values based upon the ratio of the bandwidths in use, where the authorized or previously-proposed cochannel or adjacent channel station is operated or to be operated in a system with one or more response station hub(s).

(b) An application for a license to operate a new or modified 125 kHz channel(s) MDS response station not under a response station hub license shall be filed with Mellon Bank on FCC Form 304. The applicant shall supply the following information on that form for each response station:

(1) The geographic coordinates and street address of the MDS response station transmitting antenna; and

(2) The manufacturer's name, type number, operating frequency, and power output of the proposed MDS response station transmitter; and

(3) The type of transmitting antenna, power gain, azimuthal orientation and polarization of the major lobe of radiation in degrees measured clockwise from True North; and

(4) A sketch giving pertinent details of the MDS response station transmitting antenna installation including ground elevation of the transmitter site above mean sea level; overall height above ground, including appurtenances, of any ground-mounted tower or mast on which the transmitting antenna will be mounted or, if the tower or mast is or will be located on an existing building or other manmade structure, the separate heights above ground of the building and the tower or mast including appurtenances; the location of the tower or mast on the building; the location of the transmitting antenna on the tower or mast; and the overall height of the transmitting antenna above ground.

(c) Each MDS response station licensed under this section shall comply with the following:

(1) No MDS response station shall be located beyond the protected service area of the MDS station with which it communicates; and

(2) No MDS response station shall operate with a transmitter output power in excess of 2 watts; and

(3) No MDS response station shall operate at an excess of 16 dBW EIRP.

(d) During breaks in communications, the unmodulated carrier frequency shall

be maintained within 35 kHz of the assigned frequency at all times. Adequate means shall be provided to insure compliance with this rule.

(e) Each MDS response station shall employ a directive transmitting antenna oriented towards the transmitter site of the associated MDS station or towards the response station hub with which the MDS response station communicates. The beamwidth between half power points shall not exceed 15° and radiation in any minor lobe of the antenna radiation pattern shall be at least 20 dB below the power in the main lobe of radiation.

(f) A response station may be operated unattended. The overall performance of the response station transmitter shall be checked by the licensee of the station or hub receiving the response signal, or by the licensee's employees or agents, as often as necessary to ensure that the transmitter is functioning in accordance with the requirements of the Commission's rules. The licensee of the station or hub receiving the response signal is responsible for the proper operation of the response station and must have reasonable and timely access to the response station transmitter. The response station shall be installed and maintained by the licensee of the associated station or hub, or the licensee's employees or agents, and protected in such manner as to prevent tampering or operation by unauthorized persons. No response station which has not been installed by an authorized person may lawfully communicate with any station or hub.

PART 74—EXPERIMENTAL RADIO, AUXILIARY, SPECIAL BROADCAST AND OTHER PROGRAM DISTRIBUTIONAL SERVICES

29. The authority for part 74 continues to read as follows:

Authority: 47 U.S.C. 154, 303, 307, and 554.

30. In § 74.901, the following definitions are added in alphabetical order, to read as follows:

§ 74.901 Definitions.

* * * * *

Booster service area. A geographic area to be designated by an applicant for a booster station, within which the booster station shall be entitled to protection against interference as set forth in this part. The booster service area must be specified by the applicant so as to not overlap the booster service area of any other booster authorized to or proposed by the applicant. However, a booster station may provide service to receive sites outside of its booster

service area, at the licensee's risk of interference. The booster station must be capable of providing substantial service within the designated booster service area.

Channel. Unless otherwise specified, a channel under this part shall refer to a 6 MHz frequency block assigned pursuant to §§ 21.901(b) of this chapter or 74.902(a).

* * * * *

Response station hub. A fixed facility licensed to an ITFS licensee, and operated by an ITFS licensee or the lessee of an ITFS channel, for the reception of information transmitted by one or more ITFS response stations that utilize digital modulation with uniform power spectral density. A response station hub licensed under this part may share facilities with other ITFS response station hubs, MDS response station hubs authorized pursuant to § 21.909 of this chapter, MDS signal booster stations, ITFS signal booster stations, MDS stations, and/or ITFS stations.

Response station hub license. A blanket license authorizing the operation of a single response station hub at a specific location and the operation of a specified number of associated digital response stations of one or more classes at unspecified locations within one or more regions of the response service area.

Sectorization. The use of an antenna system at an ITFS station, booster station and/or response station hub that is capable of simultaneously transmitting multiple signals over the same frequencies to different portions of the service area and/or simultaneously receiving multiple signals over the same frequencies from different portions of the service area.

Signal booster station. An ITFS station licensed for use in accordance with § 74.985 that operates on one or more ITFS channels. Signal booster stations are intended to augment service as part of a distributed transmission system where signal booster stations retransmit the signal of an ITFS station and/or originate information. A signal booster station licensed under this part may share facilities with other ITFS signal booster stations, MDS signal booster stations authorized pursuant to § 21.913 of this chapter, MDS response stations and/or ITFS response stations.

* * * * *

30a. In § 74.901, the following definitions, in alphabetical order, are revised to read as follows:

Instructional television fixed station. A fixed station licensed to an educational organization and intended primarily for video, data, or voice

transmissions of instructional, cultural, and other types of educational material to one or more fixed receiving locations.

ITFS response station. A fixed station operated by an ITFS licensee, the lessee of ITFS channel capacity or a subscriber of either to communicate with a response station hub or associated ITFS station. A response station under this part may share facilities with other ITFS response stations and/or one or more Multipoint Distribution Service (MDS) response stations authorized pursuant to § 21.909 of this chapter or § 21.940 of this chapter.

* * * * *

31. In § 74.902, paragraphs (f) through (j) are redesignated as paragraphs (g) through (k), respectively, paragraphs (c) through (e) are revised, and new paragraph (f) and a new note to paragraph (c) are added, to read as follows:

§ 74.902 Frequency assignments.

* * * * *

(c) Channels 2596–2602, 2602–2608, 2608–2614, 2614–2620, 2620–2626, 2626–2632, 2632–2638, and 2638–2644 MHz and the corresponding 125 kHz channels listed in § 74.939(j) are shared with the Multipoint Distribution Service. No new Instructional Television Fixed Service applications for these channels filed after May 25, 1983 will be accepted, except in accordance with paragraph (f) of this section. In those areas where Multipoint Distribution Service use of these channels is allowed, Instructional Television Fixed Service users of these channels will continue to be afforded protection from harmful cochannel and adjacent channel interference from Multipoint Distribution Service stations, pursuant to § 21.902 of this chapter.

Note to Paragraph (C):

No 125 kHz channels are provided for Channels E3, E4, F3 and F4, except for those grandfathered. The 125 kHz channels associated with Channels E3, E4, F3 and F4 are allocated to the Private Operational Fixed Point-to-Point Microwave Service, pursuant to § 101.147(g) of this chapter.

(d) Frequencies will be assigned as follows:

(1) A licensee is limited to the assignment of no more than four 6 MHz and four 125 kHz channels for use in a single area of operation, all of which 6 MHz channels initially should be selected from the same Group listed in paragraph (a) of this section, but which later may come from different Groups as a result of authorized channel swaps pursuant to paragraph (f) of this section. An area of operation is defined as the area 35 miles or less from the ITFS main

station transmitter. Applicants shall not apply for more channels than they intend to construct within a reasonable time, simply for the purpose of reserving additional channels. The number of channels authorized to an applicant will be based on the demonstration of need for the number of channels requested. The Commission will take into consideration such factors as the amount of use of any currently assigned channels and the amount of proposed use of each channel requested, the amount of, and justification for, any repetition in the schedules, and the overall demand and availability of ITFS channels in the community. For those applicant organizations formed for the purpose of serving accredited institutional or governmental organizations, evaluation of the need will only consider service to those specified receive sites which submitted supporting documentation pursuant to § 74.932(a)(4).

(2) An applicant leasing excess capacity and proposing a schedule which complies in all respects with the requirements of § 74.931 (c) or (d) will have presumptively demonstrated need, in accordance with paragraph (d)(1) of this section, for no more than four channels. This presumption is rebuttable by demonstrating that the application does not propose to comport with our educational usage requirements, that is, to transmit some formal educational usage, as defined in § 74.931(a), and to transmit the requisite minimum educational usage of § 74.931 (c) or (d) for genuinely educational purposes.

(e) Frequencies in the bands 2500–2650 MHz, 2656–2662 MHz, 2668–2674 MHz, and 2680–2686 MHz are available for point-to-multipoint use and/or for communications between ITFS response stations and response station hubs when authorized in accordance with the provisions of § 74.939, provided that such frequencies may be employed for ITFS response stations only when transmitting using digital modulation.

(f) An ITFS licensee or conditional licensee may apply to exchange evenly one or more of its assigned channels with another ITFS licensee or conditional licensee in the same system, or with an MDS licensee or conditional licensee in the same system where one or both parties utilizes digital transmissions or leases capacity to an operator which utilizes digital transmissions, except that an ITFS licensee or conditional licensee may not exchange one of its assigned channels for MDS channel 2A. The licensees or conditional licensees seeking to exchange channels shall file in tandem

with the Commission separate pro forma assignment of license applications, each attaching an exhibit which clearly specifies that the application is filed pursuant to a channel exchange agreement. The exchanged channel(s) shall be regulated according to the requirements applicable to the assignee; provided, however, that an ITFS licensee or conditional licensee which receives one or more E or F Group channels through a channel exchange with an MDS licensee or conditional licensee shall not be subject to the restrictions on ITFS licensees who were authorized to operate on the E or F Group channels prior to May 26, 1983.

* * * * *

32. In § 74.903, paragraphs (a)(1) through (a)(3), paragraph (b) introductory text, paragraphs (b) (1), (2), (4) and (5), paragraph (c) and paragraph (d) are revised, paragraphs (e) and (f) are removed, and new paragraph (a)(6) is added, to read as follows:

§ 74.903 Interference.

(a) * * *

(1) Cochannel interference is defined as the ratio of the desired signal to the undesired signal, at the output of a reference receiving antenna oriented to receive the maximum desired signal level. Harmful interference will be considered present when a free space calculation determines that this ratio is less than 45 dB (both stations utilizing 6 MHz bandwidths).

(2) Adjacent channel interference is defined as the ratio of the desired signal to undesired signal present in an adjacent channel, at the output of a reference receiving antenna oriented to receive the maximum desired signal level.

(i) Harmful interference will be considered present when a free space calculation determines that this ratio is less than 0 dB (both stations utilizing 6 MHz bandwidths).

(ii) In the alternative, harmful interference will be considered present for an ITFS station constructed before May 26, 1983, when a free space calculation determines that this ratio is less than 10 dB (both stations utilizing 6 MHz bandwidths), unless:

(A) The individual receive site under consideration has been subsequently upgraded with up-to-date reception equipment, in which case the ratio shall be less than 0 dB. Absent information presented to the contrary, however, the Commission will assume that reception equipment installation occurred simultaneously with original station equipment; or

(B) The license for an ITFS station is conditioned on the proffer to the

affected ITFS station licensee of equipment capable of providing a ratio of 0 dB or more at no expense to the ITFS station licensee, and also conditioned, if necessary, on the proffer of installation of such equipment; and there has been no showing by the affected ITFS station licensee demonstrating good cause and that the proposed equipment will not provide a ratio of 0 dB or more, or that installation of such equipment, at no expense to the ITFS station licensee, is not possible or has not been proffered.

(3) For purposes of this section and except as set forth in § 74.939 regarding the protection of response station hubs, all interference calculations involving receive antenna performance shall use the reference antenna characteristics shown in Figure I, § 74.937(a) or, in the alternative, utilize the actual pattern characteristics of the antenna in use at the receive site under study. If the actual receive antenna pattern is utilized, the applicant must submit complete details including manufacturer, model number(s), co-polar and cross-polar gain patterns, and other pertinent data.

* * * * *

(6) Notwithstanding the above, main, booster and response stations shall use the following formulas, as applicable, for determining compliance with: (1) Radiated field contour limits where bandwidths other than 6 MHz are employed at stations utilizing digital modulation with uniform power spectral density; and (2) Cochannel and adjacent channel D/U ratios where the bandwidths in use at the interfering and protected stations are unequal and both stations are utilizing digital modulation with uniform power spectral density or one station is utilizing such modulation and the other station is utilizing either 6 MHz NTSC analog modulation or 125 kHz analog modulation (1 channels only).

(i) Contour limit: $-73 \text{ dBW} + 10 \log (X/6)$, where X is the bandwidth in MHz of the digital channel.

(ii) Cochannel D/U: $45 \text{ dB} + 10 \log (X_1/X_2)$, where X₁ is the bandwidth in MHz of the protected channel and X₂ is the bandwidth in MHz of the interfering channel.

(iii) Adjacent channel D/U: $0 \text{ dB} + 10 \log (X_1/X_2)$, where X₁ is the bandwidth in MHz of the protected channel and X₂ is the bandwidth in MHz of the interfering channel.

(b) All applicants for instructional television fixed stations are expected to take full advantage of such directive antenna techniques to prevent interference to the reception of any

existing or previously-proposed operational fixed, multipoint distribution, international control or instructional television fixed station at authorized receiving locations.

Therefore, all applications for new or major changes must include an analysis of potential interference to all existing and previously-proposed stations in accordance with paragraph (a) of this section. An applicant for a new instructional television fixed station or for changes in an existing ITFS facility or conditional license must include the following technical information with the application:

(1) An analysis of the potential for harmful interference with the receive sites registered as of September 17, 1998, and with the protected service area, of any authorized or previously-proposed cochannel station if:

(i) The proposed transmitting antenna has an unobstructed electrical path to receive site(s) and/or the protected service area of any other station that utilizes, or would utilize, the same frequency; or

(ii) The proposed transmitter is within 80.5 km (50 miles) of the coordinates of any such station.

(2) An analysis of the potential for harmful adjacent channel interference with the receive sites registered as of September 17, 1998, and with the protected service area, of any authorized or previously-proposed station if the proposed transmitter is within 80.5 km (50 miles) of the coordinates of any station that utilizes, or would utilize, an adjacent channel frequency.

* * * * *

(4) In lieu of the interference analyses required by paragraphs (b)(1) and (2) of this section, an applicant may submit (a) statement(s) from the affected cochannel or adjacent channel licensee(s) or conditional licensee(s) that any resulting interference is acceptable.

(5) Specific rules relating to response station hubs, booster stations, and 125 kHz channels are set forth in §§ 21.909 of this chapter, 21.913 of this chapter, 21.940 of this chapter, 74.939, 74.940 and 74.985. To the extent those specific rules are inconsistent with any rules set forth above, those specific rules shall control.

(c) Existing licensees, conditional licensees and prospective applicants, including those who lease or propose to lease excess capacity pursuant to § 74.931(c) or (d), are expected to cooperate fully and in good faith in attempting to resolve problems of potential interference before bringing the matter to the attention of the Commission.

(d) Each authorized or previously-proposed applicant, conditional licensee, or licensee must be protected from harmful electrical interference at each of its receive sites registered previously as of September 17, 1998, and within a protected service area as defined at § 21.902(d)(1) of this chapter and in accordance with the reference receive antenna characteristics specified at § 21.902(f) of this chapter. An ITFS entity which did not receive protected service area protection prior to September 17, 1998 shall be accorded such protection by a cochannel or adjacent channel applicant for a new station or station modification, including a booster station, response station or response station hub, where the applicant is required to prepare an analysis, study or demonstration of the potential for harmful interference.

33. In § 74.911, paragraph (a)(1) is revised, and new paragraph (d) is added, to read as follows:

§ 74.911 Processing of ITFS station applications.

(a) * * *

(1) In the first group are applications for new stations or major changes in the facilities of authorized stations. These applications are subject to the provisions of paragraph (c) of this section. A major change for an ITFS station will be any proposal to add new channels, change from one channel (or channel group) to another except as provided for in § 74.902(f), change polarization, increase the EIRP in any direction by more than 1.5 dB, increase the transmitting antenna height by 25 feet or more, or relocate a facility's transmitter site by 10 miles or more. Applications submitted pursuant to §§ 74.939 and 74.985 shall not be considered major change applications. However, the Commission may, within 15 days after the acceptance of an application, or 15 days after the acceptance of any other application for modification of facilities, advise the applicant that such application is considered to be one for a major change, and subject to the provisions of paragraph (c) of this section.

* * * * *

(d) Notwithstanding any other provisions of this part, effective as of September 17, 1998, there shall be one one-week window, at such time as the Commission shall announce by public notice, for the filing of applications for high-power signal booster station, response station hub, and I channels point-to-multipoint transmissions licenses, during which all applications shall be deemed to have been filed as of the same day for purposes of §§ 74.939

and 74.985. Following the publication of a public notice announcing the tendering for filing of applications submitted during that window, applicants shall have a period of sixty (60) days to amend their applications, provided such amendments do not result in any increase in interference to any previously-proposed or authorized station, or to facilities proposed during the window, absent consent of the applicant for or conditional licensee or licensee of the station that would receive such additional interference. At the conclusion of that sixty (60) day period, the Commission shall publish a public notice announcing the acceptance for filing of all applications submitted during the initial window, as amended during the sixty (60) day period. All petitions to deny such applications must be filed within sixty (60) days of such second public notice. On the sixty-first (61st) day after the publication of such second public notice, applications for new or modified response station hub and booster station licenses may be filed and will be processed in accordance with the provisions of §§ 74.939 and 74.985. Notwithstanding paragraph (d) of this section, each application submitted during the initial window shall be granted on the sixty-first (61st) day after the Commission shall have given such public notice of its acceptance for filing, unless prior to such date either a party in interest timely files a formal petition to deny or for other relief pursuant to § 74.912, or the Commission notifies the applicant that its application will not be granted. Where an application is granted pursuant to the provisions of this paragraph, the conditional licensee or licensee shall maintain a copy of the application at the transmitter site or response station hub until such time as the Commission issues a license.

34. New § 74.912 is added to read as follows:

§ 74.912 Petitions to deny.

(a) Any party in interest may file with the Commission a petition to deny any application for new facilities or major changes in the facilities of authorized stations, provided such petitions are filed by the date established pursuant to the cut-off provisions of § 74.911(c). In the case of all other applications, except those excluded under Section 309(c) of the Communications Act of 1934, as amended, and except as provided in §§ 74.939 and 74.985, petitions to deny must be filed not later than 30 days after issuance of a public notice of the acceptance for filing of the applications. In the case of applications for renewal of license, petitions to deny may be filed

after the issuance of a public notice of acceptance for filing of the applications and up until the first day of the last full calendar month of the expiring license term. Any party in interest may file with the Commission a petition to deny any notification regarding ITFS booster stations within the 60 day period provided for in § 74.985(e).

(b) The applicant may file an opposition to any petition to deny, and the petitioner a reply to such opposition in which allegations of fact or denials thereof shall be supported by affidavit of a person or persons with personal knowledge thereof. The times for filing such oppositions and replies shall be those provided in § 1.45 of this chapter.

35. In § 74.931, paragraphs (d) and (e) are redesignated as paragraphs (b) and (c), respectively, and paragraphs (f) through (k) are redesignated as paragraphs (e) through (j), respectively, paragraph (a) and newly redesignated paragraphs (b) and (c) are revised, and new paragraph (d) is added, to read as follows:

§ 74.931 Purpose and permissible service.

(a) (1) Instructional television fixed stations are intended primarily through video, data, or voice transmissions to further the educational mission of accredited public and private schools, colleges and universities providing a formal educational and cultural development to enrolled students. Authorized instructional television fixed station channels must be used to further the educational mission of accredited schools offering formal educational courses to enrolled students, with limited exceptions as set forth in paragraphs (c)(3) and (d)(2) of this section and §§ 74.990 through 74.992.

(2) In furtherance of the educational mission of accredited schools, instructional television fixed station channels may be used for:

(i) In-service training and instruction in special skills and safety programs, extension of professional training, informing persons and groups engaged in professional and technical activities of current developments in their particular fields, and other similar endeavors.

(ii) Transmission of material directly related to the administrative activities of the licensee, such as the holding of conferences with personnel, distribution of reports and assignments, exchange of data and statistics, and other similar uses.

(iii) Response channels transmitting information associated with formal educational courses offered to enrolled students, including uses described in

paragraphs (a)(2) (i) and (ii) of this section, from ITFS response stations to response station hubs.

(b) Stations, including high-power ITFS signal booster stations, may be licensed in this service as originating or relay stations to interconnect instructional television fixed stations in adjacent areas, to deliver instructional and cultural material to, and obtain such material from, commercial and noncommercial educational television broadcast stations for use on the instructional television fixed system, and to deliver instructional and cultural material to, and obtain such material from, nearby terminals or connection points of closed circuit educational television systems employing wired distribution systems or radio facilities authorized under other parts of this Chapter, or to deliver instructional and cultural material to any CATV system serving a receiving site or sites which would be eligible for direct reception of ITFS signals under the provisions of paragraph (a) of this section.

(c) A licensee solely utilizing analog transmissions may use excess capacity on each channel to transmit material other than the ITFS subject matter specified in paragraphs (a) and (b) of this section, subject to the following conditions:

(1) Before leasing excess capacity on any one channel, the licensee must provide at least 20 hours per week of ITFS educational usage on that channel, except as provided in paragraph (c)(2) of this section. An additional 20 hours per week per channel must be strictly reserved for ITFS use and not used for non-ITFS purposes, or reserved for recapture by the ITFS licensee for its ITFS educational usage, subject to one year's advance, written notification by the ITFS licensee to its lessee and accounting for all recapture already exercised, with no economic or operational detriment to the licensee. These hours of recapture are not restricted as to time of day or day of the week, but may be established by negotiations between the ITFS licensee and the lessee. This 20 hours per channel per week ITFS educational usage requirement and this recapture and/or reservation requirement of an additional 20 hours per channel per week shall apply spectrally over the licensee's whole protected service area.

(2) For the first two years of operation, an ITFS entity may lease excess capacity if it provides ITFS educational usage for at least 12 hours per channel per week, provided that the entity does not employ channel loading technology.

(3) The licensee may shift its requisite ITFS educational usage onto fewer than

its authorized number of channels, via channel mapping or channel loading technology, so that it can lease full-time channel capacity on its ITFS station, associated ITFS booster stations, and/or ITFS response stations and associated response station hubs, subject to the condition that it provide a total average of at least 20 hours per channel per week of ITFS educational usage on its authorized channels. The use of channel mapping or channel loading consistent with the Rules shall not be considered adversely to the ITFS licensee in seeking a license renewal. The licensee also retains the unbridgeable right to recapture, subject to six months' advance written notification by the ITFS licensee to its lessee, an average of an additional 20 hours per channel per week, accounting for all recapture already exercised. The licensee may agree to the transmission of this recapture time on channels not authorized to it, but which are included in the wireless system of which it is a part.

(4) An ITFS applicant, conditional licensee, or licensee may specify an omnidirectional antenna for point-to-multipoint transmissions to facilitate the leasing of excess capacity.

(5) Leasing activity may not cause unacceptable interference to cochannel or adjacent channel operations.

(6) When an ITFS licensee makes capacity available on a common carrier basis, it will be subject to common carrier regulation.

(i) A licensee operating as a common carrier is required to apply for the appropriate authorization and to comply with all policies and rules applicable to that service. Responsibility for making the initial determination of whether a particular activity is common carriage rests with the ITFS licensee. Initial determinations by the licensees are subject to Commission examination and may be reviewed at the Commission's discretion.

(ii) An ITFS licensee also may apply for authorization by the Commission to alternate, without further authorization required, between rendering service on a common carrier and non-common carrier basis, provided that the licensee notify the Commission of any service status changes at least 30 days in advance of such changes.

(iii) Licensees under paragraph (c)(6) of this section additionally shall comply with the provisions of §§ 21.304, 21.900(b), 21.903(b)(1) and (2), and 21.910 of this chapter.

(d) A licensee utilizing digital transmissions on any of its licensed channels may use excess capacity on each channel to transmit material other

than the ITFS subject matter specified in paragraphs (a) and (b) of this section, subject to the following conditions:

(1) The licensee must reserve a minimum of 5% of the capacity of its channels for instructional purposes only, and may not lease this reserved capacity. In addition, before leasing excess capacity, the licensee must provide at least 20 hours per licensed channel per week of ITFS educational usage. This 5% reservation and this 20 hours per licensed channel per week ITFS educational usage requirement shall apply spectrally over the licensee's whole protected service area.

(2) The licensee may shift its requisite ITFS educational usage onto fewer than its authorized number of channels, via channel mapping or channel loading technology, and may shift its requisite ITFS educational usage onto channels not authorized to it, but which are included in the wireless system of which it is a part ("channel shifting"), so that it can lease full-time channel capacity on its ITFS station, associated ITFS booster stations, and/or ITFS response stations and associated response station hubs, subject to the condition that it provide a total average of at least 20 hours per licensed channel per week of ITFS educational usage. The use of channel mapping, channel loading, and/or channel shifting consistent with the Rules shall not be considered adversely to the ITFS licensee in seeking a license renewal.

(3) An ITFS applicant, conditional licensee, or licensee may specify an omnidirectional antenna for point-to-multipoint transmissions to facilitate the leasing of excess capacity.

(4) Leasing activity may not cause unacceptable interference to cochannel or adjacent channel operations.

(5) A licensee leasing any of its licensed channels to be used as response channels shall be required to maintain at least 25% of the capacity of its channels for point-to-multipoint transmissions during the term of the lease and following termination of the leasing arrangement. This 25% preservation may be over the licensee's own authorized channels or over channels not authorized to it, but which are included in the wireless system of which it is a part.

(6) When an ITFS licensee makes capacity available on a common carrier basis, it will be subject to common carrier regulation.

(i) A licensee operating as a common carrier is required to apply for the appropriate authorization and to comply with all policies and rules applicable to that service. Responsibility for making the initial determination of whether a

particular activity is common carriage rests with the ITFS licensee. Initial determinations by the licensee are subject to Commission examination and may be reviewed at the Commission's discretion.

(ii) An ITFS licensee also may apply for authorization by the Commission to alternate, without further authorization required, between rendering service on a common carrier and non-common carrier basis, provided that the licensee notify the Commission of any service status changes at least 30 days in advance of such changes.

(iii) Licensees under paragraph (d)(6) of this section additionally shall comply with the provisions of §§ 21.304, 21.900(b), 21.903(b)(1) and (2), and 21.910 of this chapter.

* * * * *

36. In Section 74.935, paragraphs (a) and (b) are revised to read as follows:

§ 74.935 Power limitations.

(a) The maximum EIRP of an ITFS main or booster station shall not exceed 33 dBW (or, when digital modulation with uniform power spectral density and subchannels or superchannels, or 125 kHz channels, are used, the appropriately adjusted value based upon the ratio of 6 MHz to the subchannel or superchannel, or 125 kHz, bandwidth), except as provided in paragraph (b) of this section.

(b) If a main or booster station sectorizes or otherwise uses one or more transmitting antennas with a non-omnidirectional horizontal plane radiation pattern, the maximum EIRP over a 6 MHz channel in dBW in a given direction shall be determined by the following formula:

$$\text{EIRP} = 33 \text{ dBW} + 10 \log (360 / \text{beamwidth}) \text{ [where } 10 \log (360 / \text{beamwidth}) \leq 6 \text{ dB}]$$

Beamwidth is the total horizontal plane beamwidth of the individual transmitting antenna for the station or any sector measured at the half-power points. The first term of the equation above, 33 dBW, must be adjusted appropriately based upon the ratio of 6 MHz to the subchannel or superchannel, or 125 kHz, bandwidth.

* * * * *

37. Section 74.936 is revised in its entirety, to read as follows:

§ 74.936 Emissions and bandwidth.

(a) An ITFS station may employ amplitude modulation (C3F) for the transmission of the visual signal and frequency modulation (F3E) or (G3E) for the transmission of the aural signal when transmitting a standard analog television signal. Quadrature amplitude

modulation, digital vestigial modulation, quadrature phase shift key modulation and code division multiple access emissions may be employed, subject to compliance with the policies set forth in the Declaratory Ruling and Order, 11 FCC Rcd 18839 (1996). The licensee may subchannelize its authorized bandwidth, provided that digital modulation is employed and the aggregate power does not exceed the authorized power for the channel, and may utilize all or a portion of its authorized bandwidth for ITFS response stations authorized pursuant to § 74.939. The licensee may also, jointly with affected adjacent channel licensees, transmit utilizing bandwidth in excess of its authorized frequencies, provided that digital modulation is employed, all power spectral density requirements set forth in this part are met and the out-of-band emissions restrictions set forth in 74.936 are met at the edges of the channels employed. The wider channels thus created may be redivided to create narrower channels.

(b) Notwithstanding the above, any digital emission which meets the uniform power spectral density requirements of the Declaratory Ruling and Order may be used in the following circumstances:

(1) At any ITFS main or booster station transmitter which is located more than 160.94 km (100 miles) from the nearest boundary of all cochannel and adjacent channel ITFS and MDS protected service areas, including Basic Trading Areas and Partitioned Service Areas; and

(2) At all ITFS response station transmitters within a response service area if all points along the response service area boundary line are more than 160.94 km (100 miles) from the nearest boundary of all cochannel and adjacent channel ITFS and MDS protected service areas, including Basic Trading Areas and Partitioned Service Areas; and

(3) At any ITFS transmitter where all parties entitled by this part to interference protection from that transmitter have mutually consented to the use at that transmitter of such emissions.

(c) The maximum out-of-band power of an ITFS station transmitter or booster transmitting on a single 6 MHz channel with an EIRP in excess of -9 dBW employing analog modulation shall be attenuated at the channel edges by at least 38 dB relative to the peak visual carrier, then linearly sloping from that level to at least 60 dB of attenuation at 1 MHz below the lower band edge and 0.5 MHz above the upper band edge, and attenuated at least 60 dB at all other

frequencies. The maximum out-of-band power of an ITFS station transmitter or booster transmitting on a single 6 MHz channel or a portion thereof with an EIRP in excess of -9 dBW (or, when subchannels are used, the appropriately adjusted value based upon the ratio of the channel-to-subchannel bandwidths) employing digital modulation shall be attenuated at the 6 MHz channel edges at least 25 dB relative to the licensed average 6 MHz channel power level, then attenuated along a linear slope to at least 40 dB at 250 kHz beyond the nearest channel edge, then attenuated along a linear slope from that level to at least 60 dB at 3 MHz above the upper and below the lower licensed channel edges, and attenuated at least 60 dB at all other frequencies. Notwithstanding the foregoing, in situations where an ITFS station or booster station transmits, or where adjacent channel licensees jointly transmit, a single signal over more than one contiguous 6 MHz channel utilizing digital modulation with an EIRP in excess of -9 dBW (or, when subchannels or superchannels are used, the appropriately adjusted value based upon the ratio of 6 MHz to the subchannel or superchannel bandwidth), the maximum out-of-band power shall be attenuated at the channel edges of those combined channels at least 25 dB relative to the power level of each channel, then attenuated along a linear slope from that level to at least 40 dB at 250 kHz above or below the channel edges of those combined channels, then attenuated along a linear slope from that level to at least 60 dB at 3 MHz above the upper and below the lower edges of those combined channels, and attenuated at least 60 dB at all other frequencies. However, should harmful interference occur as a result of emissions outside the assigned channel, additional attenuation may be required. A transmitter licensed prior to November 1, 1991, that remains at the station site initially licensed, and does not comply with this paragraph, may continue to be used for its life if it does not cause harmful interference to the operation of any other licensee. Any non-conforming transmitter replaced after November 1, 1991, must be replaced by a transmitter meeting the requirements of this paragraph.

(d) A booster transmitting on multiple contiguous or non-contiguous channels carrying separate signals (a "broadband" booster) with an EIRP in excess of -9 dBW per 6 MHz channel and employing analog, digital or a combination of these modulations shall have the following characteristics:

(1) For broadband boosters operating in the frequency range of 2.150–2.160/

2 GHz, the maximum out-of-band power shall be attenuated at the upper and lower channel edges forming the band edges by at least 25 dB relative to the licensed analog peak visual carrier or digital average power level (or, when subchannels are used, the appropriately adjusted value based upon the ratio of the channel-to-subchannel bandwidths), then linearly sloping from that level to at least 40 dB of attenuation at 0.25 MHz above and below the band edges, then linearly sloping from that level to at least 60 dB of attenuation at 3.0 MHz above and below the band edges, and attenuated at least 60 dB at all other frequencies.

(2) For broadband boosters operating in the frequency range of 2.500–2.690 GHz, the maximum out-of-band power shall be attenuated at the upper and lower channel edges forming the band edges by at least 25 dB relative to the licensed analog peak visual carrier or digital average power level (or, when subchannels are used, the appropriately adjusted value based upon the ratio of the channel-to-subchannel bandwidths), then linearly sloping from that level to at least 40 dB of attenuation at 0.25 MHz above and below the band edges, then linearly sloping from that level to at least 50 dB of attenuation at 3.0 MHz above and below the band edges, then linearly sloping from that level to at least 60 dB of attenuation at 20 MHz above and below the band edges, and attenuated at least 60 dB at all other frequencies.

(3) Within unoccupied channels in the frequency range of 2.500–2.690 GHz, the maximum out-of-band power shall be attenuated at the upper and lower channel edges of an unoccupied channel by at least 25 dB relative to the licensed analog peak visual carrier power level or digital average power level of the occupied channels (or, when subchannels or 125 kHz channels are used, the appropriately adjusted value based upon the ratio of the channel-to-subchannel bandwidths), then linearly sloping from that level to at least 40 dB of attenuation at 0.25 MHz above and below the occupied channel edges, then linearly sloping from that level to at least 50 dB of attenuation at 3.0 MHz above and below the occupied channel edges, and attenuated at least 50 dB at all other unoccupied frequencies.

(e) Boosters operating with an EIRP less than -9 dBW per 6 MHz channel shall have no particular out-of-band power attenuation requirement, except that if they cause harmful interference, their operation shall be terminated within 2 hours of notification by the Commission until the interference can be cured.

(f) The maximum out-of-band power of an ITFS response station using all or part of a 6 MHz channel and employing digital modulation shall be attenuated at the 6 MHz channel edges at least 25 dB relative to the licensed average 6 MHz channel power level, then attenuated along a linear slope to at least 40 dB at 250 kHz beyond the nearest channel edge, then attenuated along a linear slope from that level to at least 60 dB at 3 MHz above the upper and below the lower licensed channel edges, and attenuated at least 60 dB at all other frequencies. Where ITFS response stations with digital modulation utilize all or part of more than one contiguous 6 MHz channel to form a larger channel (e.g., a channel of width 12 MHz), the above-specified attenuations shall be applied only at the upper and lower edges of the overall combined channel. Notwithstanding these provisions, should harmful interference occur as a result of emissions outside the assigned channel(s), additional attenuation may be required by the Commission.

(g) The requirements of § 73.687(c)(2) will be considered to be satisfied insofar as measurements of operating power are concerned if the transmitter is equipped with instruments for determining the combined visual and aural operating power. However, licensees are expected to maintain the operating powers within the limits specified in § 74.935. Measurements of the separate visual and aural operating powers must be made at sufficiently frequent intervals to insure compliance with the rules, and in no event less than once a month. However, the provisions of § 73.687(c)(2) and of this paragraph shall not be applicable to ITFS response stations or to low power ITFS booster stations authorized pursuant to § 74.985(e).

(h) Compliance with the out-of-band emissions limitations shall be established in accordance with § 21.908(e) of this chapter.

38. In § 74.937, paragraph (a) is revised by amending the text preceding figure 1, and paragraph (b) is revised, to read as follows:

§ 74.937 Antennas.

(a) In order to minimize the hazard of harmful cochannel and adjacent channel interference from other stations, directive receiving antennas should be used at all receiving locations other than response station hubs. The choice of receiving antennas is left to the discretion of the licensee. However, for the purpose of interference calculations, except as set forth in § 74.939, the general characteristics of the reference receiving antenna shown in Figure I of this section (i.e., a 0.6 meter (2 foot)

parabolic reflector antenna) are assumed to be used in accordance with the provisions of § 74.903(a)(3) unless pertinent data is submitted of the actual antenna in use at the receive site. Licensees may install receiving antennas with general characteristics superior to those of the reference receive antenna. Nevertheless, should interference occur and it can be demonstrated by an applicant that the existing antenna at the receive site is inappropriate, a more suitable yet practical receiving antenna should be installed. In such cases, the modification of the receive site will be in the discretion, and will be the responsibility, of the licensee serving the site.

* * * * *

(b) Except as set forth in § 74.931 (c)(4) and (d)(3), directive transmitting antennas shall be used whenever feasible so as to minimize interference to other licensees. The radiation pattern shall be designed to minimize radiation in directions where no reception is intended. When an ITFS station is used for point-to-point service, an appropriate directional antenna must be used.

* * * * *

39. Section 74.938 is revised to read as follows:

§ 74.938 Transmission standards.

The width of an ITFS channel is 6 MHz. However, the licensee may subchannelize its authorized bandwidth, provided that digital modulation is employed and the aggregate power does not exceed the authorized power for the channel, and may utilize all or a portion of its authorized bandwidth for ITFS response stations authorized pursuant to § 74.939. The licensee may also, jointly with other licensees, transmit utilizing bandwidth in excess of its authorized bandwidth, provided that digital modulation is employed, all power spectral density requirements set forth in this part are met and the out-of-band emissions restrictions set forth in § 74.936 are met at the edges of the channels employed.

40. Section 74.939 is revised to read as follows:

§ 74.939 ITFS response stations.

(a) An ITFS response station is authorized to provide communication by voice, video and/or data signals with its associated ITFS response station hub or associated ITFS station. An ITFS response station may be operated only by the licensee of the ITFS station, by any person or entity authorized by the ITFS licensee to receive point-to-

multipoint transmissions over its channels, by any lessee of excess capacity, or by a subscriber of any lessee of excess capacity. The authorized channel may be divided to provide distinct subchannels for each of more than one response station, provided that digital modulation is employed and the aggregate power does not exceed the authorized power for the channel. An ITFS response station may also, jointly with other licensees, transmit utilizing bandwidth in excess of that authorized to the station, provided that digital modulation is employed, all power spectral density requirements set forth in this part are met, and the out-of-band emission restrictions set forth in § 74.936 or paragraph (k) of this section are complied with.

(b) ITFS response stations that utilize the 2150–2162 MHz band pursuant to § 74.902(f), the 2500–2686 MHz band, and/or the 125 kHz channels identified in paragraph (j) of this section may be installed and operated without an individual license, to communicate with a response station hub authorized under a response station hub license, provided that the conditions set forth in paragraph (g) of this section are complied with and that ITFS response stations operating in the 2150–2162 MHz and/or 2500–2686 MHz band(s) employ only digital modulation with uniform power spectral density in accordance with the Commission's Declaratory Ruling and Order, 11 FCC Rcd 18839 (1996).

(c) An applicant for a response station hub license shall:

(1) File FCC Form 331 with the Commission in Washington, DC, and certify on that form that it has complied with the requirements of paragraphs (c)(2) and (d) of this section. Failure to certify compliance and to comply completely with the requirements of paragraphs (c)(2) and (d) of this section shall result in dismissal of the application or revocation of the response station hub license, and may result in imposition of a monetary forfeiture; and

(2) Submit to International Transcription Services, Inc. ("ITS"), 1231 20th Street, NW, Washington, DC 20036, both in hard copy, and on a 3.5" computer diskette in ASCII, the following:

(i) Duplicates of the Form 331 filed with the Commission; and

(ii) The data required by Appendix D to the Report and Order in MM Docket No. 97–217, FCC 98–231, "Methods for Predicting Interference from Response Station Transmitters and to Response Station Hubs and for Supplying Data on Response Station Systems"; and

(iii) The information, showings and certifications required by paragraph (d) of this section; and

(3) Submit to the Commission, only upon Commission staff request, duplicates of the submissions required by paragraph (c)(2) of this section.

(d) An applicant for a response station hub license shall, pursuant to paragraph (c)(2)(iii) of this section, submit to ITS the following:

(1) The geographic coordinates, street address, and the height of the center line of the reception antenna(s) above mean sea level for the response station hub; and (2) A specification of:

(i) The response service area in which the applicant or its lessee proposes to install ITFS response stations to communicate with the response station hub, any regions into which the response service area will be subdivided for purposes of interference analysis, and any regional classes of response station characteristics which will be used to define the operating parameters of groups of response stations within each region for purposes of interference analysis, including:

(A) the maximum height above ground level of the transmission antenna that will be employed by any response station in the regional class and that will be used in interference analyses; and

(B) the maximum equivalent isotropic radiated power (EIRP) that will be employed by any response station in the regional class and that will be used in interference analyses; and

(C) any sectorization that will be employed, including the polarization to be employed by response stations in each sector and the geographic orientation of the sector boundaries, and that will be used in interference analyses; and

(D) the combined worst-case outer envelope plot of the patterns of all models of response station transmission antennas that will be employed by any response station in the regional class to be used in interference analyses; and

(E) the maximum number of response stations that will be operated simultaneously in each region using the characteristics of each regional class applicable to each region.

(ii) The channel plan (including any guardbands at the edges of the channel) to be used by ITFS response stations in communicating with the response station hub, including a statement as to whether the applicant will employ the same frequencies on which response stations will transmit to also transmit on a point-to-multipoint basis from an MDS station or MDS booster station; and

(3) A demonstration that:

(i) The proposed response station hub is within the protected service area, as defined in § 21.902(d)(1) of this chapter, of the ITFS station(s) whose channels will be used for communications to the response station hub or, in the case of an application for response stations to utilize one or more of the 125 kHz response channels, the response station hub is within the protected service area of the station authorized to utilize the associated channel(s); and

(ii) The entire proposed response service area is within the protected service area of the ITFS station(s) whose channels will be used for communications to the response station hub or, in the alternative, the applicant may demonstrate that the licensee of any cochannel protected service area which is overlapped by the proposed response service area has consented to such overlap. In the case of an application for response stations to utilize one or more of the 125 kHz response channels, such demonstration shall establish that the response service area is entirely within the protected service area of the station authorized to utilize the associated channel(s), or, in the alternative, that the licensee entitled to any cochannel protected service area which is overlapped by the proposed response service area has consented to such overlap; and

(iii) The combined signals of all simultaneously operating ITFS response stations within all response service areas and oriented to transmit toward their respective response station hubs and all cochannel ITFS stations and booster stations licensed to or applied for by the applicant will not generate a power flux density in excess of -73 dBW/m² (or the pro rata power spectral density equivalent based on the bandwidth actually employed in those cases where less than a 6 MHz channel is to be employed) outside the boundaries of the applicant's protected service area, as measured at locations for which there is an unobstructed signal path, except to the extent that consent of affected licensees has been obtained or consents have been granted pursuant to paragraph (d)(3)(ii) of this section to an extension of the response service area beyond the boundaries of the protected service area; and

(iv) The combined signals of all simultaneously operating ITFS response stations within all response service areas and oriented to transmit toward their respective response station hubs, and all cochannel ITFS stations and booster stations licensed to or applied for by the applicant, will result in a desired to undesired signal ratio of at least 45 dB (or the appropriately

adjusted value based upon the ratio of the channel-to-subchannel bandwidths):

(A) within the protected service area of any authorized or previously-proposed cochannel MDS or ITFS station with center coordinates located within 160.94 km (100 miles) of the proposed response station hub; and

(B) within the booster service area of any cochannel booster station entitled to such protection pursuant to § 21.913(f) of this chapter or 74.985(f) and located within 160.94 km (100 miles) of the proposed response station hub; and

(C) at any registered receive site of any authorized or previously-proposed cochannel ITFS station or booster station located within 160.94 km (100 miles) of the proposed response station hub, or, in the alternative, that the licensee or applicant for such cochannel station or hub consents to the application; and

(v) The combined signals of all simultaneously operating ITFS response stations within all response service areas and oriented to transmit toward their respective response station hubs, and all cochannel ITFS stations and booster stations licensed to or applied for by the applicant, will result in a desired to undesired signal ratio of at least 0 dB (or the appropriately adjusted value based upon the ratio of the channel-to-subchannel bandwidths):

(A) within the protected service area of any authorized or previously-proposed adjacent channel MDS or ITFS station with center coordinates located within 160.94 km (100 miles) of the proposed response station hub; and

(B) within the booster service area of any adjacent channel booster station entitled to such protection pursuant to §§ 21.913(f) of this chapter or 74.985(f) and located within 160.94 km (100 miles) of the proposed response station hub; and

(C) at any registered receive site of any authorized or previously-proposed adjacent channel ITFS station or booster station located within 160.94 km (100 miles) of the proposed response station hub, or, in the alternative, that the licensee or applicant for such adjacent channel station or hub consents to such application; and

(vi) The combined signals of all simultaneously operating ITFS response stations within all response service areas and oriented to transmit toward their respective response station hub and all cochannel ITFS stations and booster stations licensed to or applied for by the applicant will comply with the requirements of § 21.909(i) of this chapter and paragraph (i) of this section.

(4) A certification that the application has been served upon

(i) the holder of any cochannel or adjacent channel authorization with a protected service area which is overlapped by the proposed response service area;

(ii) the holder of any cochannel or adjacent channel authorization with a protected service area that adjoins the applicant's protected service area;

(iii) the holder of a cochannel or adjacent channel authorization for any BTA or PSA inside whose boundaries are locations for which there is an unobstructed signal path for combined signals from within the response station hub applicant's protected service area; and

(iv) every licensee of, or applicant for, any cochannel or adjacent channel, authorized or previously-proposed, incumbent MDS station with a 56.33 km (35 mile) protected service area with center coordinates located within 160.94 km (100 miles) of the proposed response station hub; and

(v) every licensee of, or applicant for, any cochannel or adjacent channel, authorized or previously-proposed ITFS station (including any booster station or response station hub) located within 160.94 km (100 miles) of the proposed response station hub.

(e) Applications for response station hub licenses shall be deemed minor change applications and, except as provided in § 74.911(e), may be filed at any time. Notwithstanding any other provision of part 74, applications for response station hub licenses meeting the requirements of paragraph (c) of this section shall cut-off applications that are filed on a subsequent day for facilities that would cause harmful electromagnetic interference to the proposed response station hubs. A response station hub shall not be entitled to protection from interference caused by facilities proposed on or prior to the day the application for the response station hub license is filed. Response stations shall not be required to protect from interference facilities proposed on or after the day the application for the response station hub license is filed.

(f) Notwithstanding the provisions of § 74.912 and except as provided by § 74.911(e), any petition to deny an application for a response station hub license shall be filed no later than the sixtieth (60th) day after the date of public notice announcing the filing of such application or major amendment thereto. Notwithstanding § 74.911(d) and except as provided in § 74.911(e), an application for a response station hub license that meets the requirements of this section shall be granted on the sixty-first (61st) day after the

Commission shall have given public notice of the acceptance for filing of it, or of a major amendment to it if such major amendment has been filed, unless prior to such date either a party in interest timely files a formal petition to deny or for other relief pursuant to § 74.912, or the Commission notifies the applicant that its application will not be granted. Where an application is granted pursuant to the provisions of this paragraph, the conditional licensee or licensee shall maintain a copy of the application at the response station hub until such time as the Commission issues a response station hub license.

(g) An ITFS response station hub license establishing a response service area shall be conditioned upon compliance with the following:

(1) No ITFS response station shall be located beyond the response service area of the response station hub with which it communicates; and

(2) No ITFS response station shall operate with a transmitter output power in excess of 2 watts; and

(3) No ITFS response station shall operate with an EIRP in excess of that specified in the application for the response station hub pursuant to paragraph (d)(2)(i)(B) of this section for the particular regional class of characteristics with which the response station is associated, and such response station shall not operate at an excess of 33 dBW EIRP (or, when subchannels or superchannels, or 125 kHz channels, are used, the appropriately adjusted value based upon the ratio of 6 MHz to the subchannel or superchannel, or 125 kHz, bandwidth); and

(4) Each ITFS response station shall employ a transmission antenna oriented toward the response station hub with which the ITFS response station communicates, and such antenna shall be no less directional than the worst case outer envelope pattern specified in the application for the response station hub pursuant to paragraph (d)(2)(i)(D) of this section for the regional class of characteristics with which the response station is associated; and

(5) The combined out-of-band emissions of all response stations using all or part of one or multiple contiguous 6 MHz channels and employing digital modulation shall comply with § 74.936(e). The combined out-of-band emissions of all response stations using all or part of one or multiple contiguous 125 kHz channels shall comply with paragraph (k) of this section. However, should harmful interference occur as a result of emissions outside the assigned channel, additional attenuation may be required; and

(6) The response stations transmitting simultaneously at any time within any given region of the response service area utilized for purposes of analyzing the potential for interference by response stations shall conform to the numerical limits for each class of response station proposed in the application for the response station hub license.

Notwithstanding the foregoing, the licensee of a response station hub license may alter the number of response stations of any class operating simultaneously in a given region, without prior Commission authorization, provided that the licensee:

(i) First notifies the Commission of the altered number of response stations of such class(es) to be operated simultaneously in such region, and certifies in that notification that it has complied with the requirements of paragraphs (g)(6)(ii) and (iii) of this section; and

(ii) Provides ITS with a copy of such notification and with an analysis establishing that such alteration will not result in any increase in interference to the protected service area or protected receive sites of any existing or previously-proposed, cochannel or adjacent channel MDS or ITFS station or booster station, to the protected service area of any MDS Basic Trading Area or Partitioned Service Area licensee entitled to protection pursuant to paragraph (d)(3) of this section, or to any existing or previously-proposed, cochannel or adjacent channel response station hub, or response station under § 21.940 of this chapter or § 74.940; or that the applicant for or licensee of such facility has consented to such interference; and

(iii) Serves a copy of such notification and analysis upon each party entitled to be served pursuant to paragraph (d)(4) of this section; and

(iv) Submits to the Commission, only upon Commission staff request, duplicates of the submissions required by paragraph (g)(6)(ii) of this section; and

(7) Where an application is granted under this section, if a facility operated pursuant to that grant causes harmful, unauthorized interference to any cochannel or adjacent channel facility, it must promptly remedy the interference or immediately cease operations of the interfering facility, regardless of whether any petitions to deny or for other relief were filed against the application during the application process. The burden of proving that a facility operated under this section is not causing harmful, unauthorized interference lies on the

licensee of the alleged interfering facility, following the filing of a documented complaint of interference by an affected party; and

(8) In the event any MDS or ITFS receive site suffers interference due to block downconverter overload, the licensee of each response station hub with a response service area within five miles of such receive site shall cooperate in good faith to expeditiously identify the source of the interference. Each licensee of a response station hub with an associated response station contributing to such interference shall bear the joint and several obligation to promptly remedy all interference resulting from block downconverter overload at any ITFS receive site registered prior to the submission of the application for the response station hub license or at any receive site within an MDS or ITFS protected service area applied for prior to the submission of the application for the response station hub license, regardless of whether the receive site suffering the interference was constructed prior to or after the construction of the response station(s) causing the downconverter overload; provided, however, that the licensee of the registered ITFS receive site or the MDS or ITFS protected service area must cooperate fully and in good faith with efforts by the response station hub licensee to prevent interference before constructing response stations and/or to remedy interference that may occur. In the event that more than one response station hub licensee contributes to block downconverter interference at a MDS or ITFS receive site, the licensees of the contributing response station hubs shall cooperate in good faith to remedy promptly the interference.

(h) Applicants must comply with part 17 of this chapter concerning notification to the Federal Aviation Administration of proposed antenna construction or alteration. The provisions of §§ 74.967 and 74.981(a)(5), concerning antenna painting and lighting requirements, apply to ITFS response stations and response station hubs, as well as to main and booster stations.

(i) Response station hubs shall be protected from cochannel and adjacent channel interference in accordance with the following criteria:

(1) An applicant for any new or modified MDS or ITFS station (including any high-power booster station or response station hub) shall be required to demonstrate interference protection to a response station hub within 160.94 km (100 miles) of the proposed facilities. In lieu of the interference protection requirements set

forth in §§ 21.902(i) of this chapter, 21.938(b)(3) of this chapter and 74.903, such demonstration shall establish that the proposed facility will not increase the effective power flux density of the undesired signals generated by the proposed facility and any associated main stations, booster stations or response stations at the response station hub antenna for any sector. In lieu of the foregoing, an applicant for a new MDS or ITFS main station license or for a new or modified response station hub or booster license may demonstrate that the facility will not increase the noise floor at a reception antenna of the response station hub by more than 1 dB for cochannel signals and 45 dB for adjacent channel signals, provided that:

(i) The entity submitting the application may only invoke this alternative once per response station hub reception sector; or

(ii) The licensee of the affected response station hub may consent to receive a certain amount of interference at its hub.

(2) Commencing upon the filing of an application for an ITFS response station hub license and until such time as the application is dismissed or denied or, if the application is granted, a letter informing the Commission of completion of construction is submitted, the ITFS station whose channels are being utilized shall be entitled both to interference protection pursuant to §§ 21.902(i) of this chapter, 21.938(b)(3) of this chapter and 74.903, and to protection of the response station hub pursuant to the preceding paragraph. Unless the application for the response station hub license specifies that the same frequencies also will be employed for digital and/or analog point-to-multipoint transmissions by ITFS stations and/or ITFS booster stations, upon the submission of a letter informing the Commission of completion of construction of an ITFS response station hub where the channels of an ITFS station are being utilized as response station transmit frequencies, the ITFS station whose channels are being utilized for response station transmissions shall no longer be entitled to interference protection pursuant to §§ 21.902(i) of this chapter, 21.938(b)(3) of this chapter and 74.903 within the response service area with regard to any portion of any 6 MHz channel employed solely for response station communications. Upon the submission of a letter informing the Commission of completion of construction of an ITFS response station hub where the channels of an ITFS station are being utilized for response station transmissions and the

application for the response station hub license specifies that the same frequencies will be employed for point-to-multipoint transmissions, the ITFS station whose channels are being utilized shall be entitled both to interference protection pursuant to §§ 21.902(i) of this chapter, 21.938(b)(3) of this chapter and 74.903, and to protection of the response station hub pursuant to the preceding provisions of this paragraph.

(j) ITFS response stations may operate on either all or part of a 6 MHz channel assigned a licensee, on any 125 kHz channel assigned a licensee, or on adjacent frequencies authorized to multiple licensees where such stations are operated jointly. The 125 kHz channels listed in the following table shall be assigned to the licensees of MDS and ITFS stations for use at response stations, or for licensing for point-to-multipoint transmissions pursuant to paragraph (l) of this section, in accordance with the table. The specified 125 kHz frequency channel may be subdivided to provide a distinct operating frequency for each of more than one station, or may be combined with adjacent channels, provided that digital modulation is employed in accordance with paragraph (a) of this section. The specified 125 kHz frequency channels also may be exchanged with the licensee of another MDS or ITFS station for use of another 125 kHz channel assigned to the other licensee.

Frequency (MHz)	Main channel designation	125 kHz channel designation
2686.0625	A1	I1
2686.1875	B1	I2
2686.3125	C1	I3
2686.4375	D1	I4
2686.5625	E1	I5
2686.6875	F1	I6
2686.8125	G1	I7
2686.9375	H1	I8
2687.0625	A2	I9
2687.1875	B2	I10
2687.3125	C2	I11
2687.4375	D2	I12
2687.5625	E2	I13
2687.6875	F2	I14
2687.8125	G2	I15
2687.9375	H2	I16
2688.0625	A3	I17
2688.1875	B3	I18
2688.3125	C3	I19
2688.4375	D3	I20
2688.5625	E3	I21
2688.6875	F3	I22
2688.8125	G3	I23
2688.9375	H3	I24
2689.0625	A4	I25
2689.1875	B4	I26
2689.3125	C4	I27
2689.4375	D4	I28
2689.5625	E4	I29
2689.6875	F4	I30
2689.8125	G4	I31

(k) 125 kHz wide response channels shall be subject to the following requirements: The 125 kHz wide channel shall be centered at the assigned frequency. If amplitude modulation is used, the carrier shall not be modulated in excess of 100%. If frequency modulation is used, the deviation shall not exceed ± 25 kHz. Any emissions outside the channel shall be attenuated at the channel edges at least 35 dB below peak output power when analog modulation is employed or 35 dB below licensed average output power when digital modulation is employed (or, when subchannels are used, the appropriately adjusted value based upon the ratio of the channel-to-subchannel bandwidths). Any emissions more than 125 kHz from either channel edge, including harmonics, shall be attenuated at least 60 dB below peak output power when analog modulation is employed, or at least 60 dB below licensed average output power when digital modulation is employed (or, when subchannels are used, the appropriately adjusted value based upon the ratio of the channel-to-subchannel bandwidths). Notwithstanding the foregoing, in situations where adjacent channel licensees jointly transmit over more than one channel utilizing digital

modulation, the maximum out-of-band power shall be attenuated at the edges of those combined channels at least 35 dB relative to the licensed average power level of each channel. Emissions more than 125 kHz from either edge of the combined channels, including harmonics, shall be attenuated at least 60 dB below peak analog power or licensed average digital power of each channel, as appropriate. Different types of emissions may be authorized for use on 125 kHz wide channels if the applicant describes fully the modulation and bandwidth desired, and demonstrates that the modulation selected will cause no more interference than is permitted under this paragraph. Greater attenuation may be required if interference is caused by out-of-channel emissions.

(l) Any MDS or ITFS conditional licensee or licensee who wishes to use one or more of its associated I channels for point-to-multipoint transmissions in a system with one or more authorized, or previously- or simultaneously-proposed, response station hub(s) shall:

(1) File FCC Form 331 with the Commission, filing with Mellon Bank for I channels associated with an MDS station, and filing with the Commission in Washington, DC for I channels associated with an ITFS station. The application shall specify which of the associated I channels is/are intended for point-to-multipoint transmissions. The applicant also shall certify on the appropriate form that it has complied with the requirements of paragraph (l)(2) of this section. Failure to certify compliance and to comply completely with the requirements of paragraph (l)(2) of this section shall result in dismissal of the application or revocation of the authorization for point-to-multipoint transmissions on the relevant I channels, and may result in imposition of a monetary forfeiture. Modification applications to convert I channels associated with ITFS stations to point-to-multipoint transmissions shall be considered minor changes for purposes of § 74.911. These applications shall be subject to the procedures set forth in § 21.27(d) of this chapter or § 74.911(e), as appropriate; and

(2) Submit to International Transcription Services, Inc., 1231 20th Street, N.W., Washington, DC 20036, both in hard copy, and on a 3.5" computer diskette in ASCII, and likewise submit to the Commission, only upon Commission staff request:

(i) Duplicates of the Form 331 filed with Mellon Bank or with the Commission, as appropriate; and

(ii) The interference analyses required to be performed under § 21.902 of this

chapter, and § 21.938 of this chapter where appropriate, including the provisions of §§ 21.909 of this chapter, 21.913 of this chapter, 74.939 and 74.985 regarding the protection of response station hubs and booster service areas from harmful electromagnetic interference, and including protection of stations authorized pursuant to §§ 21.940 of this chapter and 74.940 from harmful electromagnetic interference, using the appropriately adjusted interference protection values based upon the ratio of the bandwidths in use; and

(3) Except as provided in § 21.27(d) of this chapter or § 74.911(e), as appropriate, be permitted to file applications to convert associated I channels to point-to-multipoint transmissions at any time. I channels used for point-to-multipoint transmissions shall be afforded interference protection in the same manner as other point-to-multipoint MDS and ITFS facilities, with appropriate adjustment of the interference protection values for bandwidth. Notwithstanding any other provision of parts 21 and 74, applications to convert associated I channels to point-to-multipoint transmissions, meeting the requirements of paragraphs (l) (1) and (2) of this section, shall cut-off applications that are filed on a subsequent day for facilities that would cause harmful electromagnetic interference to the proposed point-to-multipoint operations; and

(4) Notwithstanding the provisions of §§ 21.30(a)(4) of this chapter and 74.912, and except as provided in § 21.27(d) of this chapter or § 74.911(e), as appropriate, be subject to a petition to deny an application to convert associated I channels to point-to-multipoint transmissions that is filed no later than the sixtieth (60th) day after the date of public notice announcing the filing of such application or major amendment thereto. Notwithstanding §§ 21.31 of this chapter and 74.911(d), and except as provided in § 21.27(d) of this chapter or § 74.911(e), as appropriate, an application to convert associated I channels to point-to-multipoint transmissions that meets the requirements of this paragraph shall be granted on the sixty-first (61st) day after the Commission shall have given public notice of the acceptance for filing of it, or of a major amendment to it if such major amendment has been filed, unless prior to such date either a party in interest timely files a formal petition to deny or for other relief pursuant to § 21.30(a) of this chapter or § 74.912, or the Commission notifies the applicant

that its application will not be granted. Where an application is granted pursuant to the provisions of this paragraph, the conditional licensee or licensee shall maintain a copy of the application at the I channels station until such time as the Commission issues an I channels station license for point-to-multipoint transmissions; and

(5) Where an application is granted under this paragraph, and a facility operated pursuant to that grant causes harmful, unauthorized interference to any cochannel or adjacent channel facility, promptly remedy the interference or immediately cease operations of the interfering facility, regardless of whether any petitions to deny or for other relief were filed against the application during the application process. The burden of proving that a facility operated under this paragraph is not causing harmful, unauthorized interference lies on the licensee of the alleged interfering facility, following the filing of a documented complaint of interference by an affected party.

(m) A response station may be operated unattended. The overall performance of the response station transmitter shall be checked by the hub licensee as often as necessary to ensure that it is functioning in accordance with the requirements of the Commission's rules. The licensee of a response station hub is responsible for the proper operation of all associated response stations and must have reasonable and timely access to all station transmitters. Response stations shall be installed and maintained by the licensee of the associated hub station, or the licensee's employees or agents, and protected in such manner as to prevent tampering or operation by unauthorized persons. No response hub may lawfully communicate with any response station which has not been installed by an authorized person, and each response station hub licensee is responsible for maintaining, and making available to the Commission upon request, a list containing the customer name and site location (street address and latitude/longitude to the nearest second) of each associated response station, plus the technical parameters (e.g., EIRP, emission, bandwidth, and antenna pattern, height, orientation and polarization) pertinent to each specific response station.

(n) The transmitting apparatus employed at ITFS response stations shall have received type certification.

(o) An ITFS response station shall be operated only when engaged in communication with its associated ITFS response station hub or ITFS station, or

for necessary equipment or system tests and adjustments. Radiation of an unmodulated carrier and other unnecessary transmissions are forbidden.

(p) At least 20 days prior to the activation of a response station transmitter located within a radius of 1960 feet of a registered or previously-applied-for ITFS receive site, the response station hub licensee must notify, by certified mail, the licensee of the ITFS site of the intention to activate the response station. The notification must contain the street address and geographic coordinates (to the nearest second) of the response station, a specification of the station's EIRP, antenna pattern/orientation/height AMSL, channel(s) to be used, as well as the name and telephone number of a contact person who will be responsible for coordinating the resolution of any interference problems.

(q) Interference calculations shall be performed in accordance with Appendix D to the *Report and Order* in MM Docket No. 97-217, FCC 98-231, "Methods For Predicting Interference From Response Station Transmitters and To Response Station Hubs and For Supplying Data on Response Station Systems." Compliance with the out-of-band emission limitations shall be established in accordance with § 21.908(e) of this chapter.

41. New § 74.940 is added, to read as follows:

§ 74.940 Individually licensed 125 kHz channel ITFS response stations.

(a) The provisions of § 74.939 (a), (e), (h), (j), (k), (n) and (o), also shall apply with respect to authorization of a 125 kHz channel(s) ITFS response station not under a response station hub license. The applicant shall comply with the requirements of § 21.902 of this chapter, and § 21.938 of this chapter where appropriate, including the provisions of §§ 21.909 of this chapter, 21.913 of this chapter, 74.939 and 74.985 regarding the protection of response station hubs and booster service areas from harmful electromagnetic interference, using the appropriately adjusted interference protection values based upon the ratio of the bandwidths in use, where the authorized or previously-proposed cochannel or adjacent channel station is operated or to be operated in a system with one or more response station hub(s).

(b) An application for a license to operate a new or modified 125 kHz channel(s) ITFS response station not under a response station hub license shall be filed with the Commission in

Washington, DC, on FCC Form 330. The applicant shall supply the following information on that form for each response station:

(1) The geographic coordinates and street address of the ITFS response station transmitting antenna; and

(2) The manufacturer's name, type number, operating frequency, and power output of the proposed ITFS response station transmitter; and

(3) The type of transmitting antenna, power gain, azimuthal orientation and polarization of the major lobe of radiation in degrees measured clockwise from True North; and

(4) A sketch giving pertinent details of the ITFS response station transmitting antenna installation including ground elevation of the transmitter site above mean sea level; overall height above ground, including appurtenances, of any ground-mounted tower or mast on which the transmitting antenna will be mounted or, if the tower or mast is or will be located on an existing building or other manmade structure, the separate heights above ground of the building and the tower or mast including appurtenances; the location of the tower or mast on the building; the location of the transmitting antenna on the tower or mast; and the overall height of the transmitting antenna above ground.

(c) Each ITFS response station licensed under this section shall comply with the following:

(1) No ITFS response station shall be located beyond the protected service area of the ITFS station with which it communicates; and

(2) No ITFS response station shall operate with a transmitter output power in excess of 2 watts; and

(3) No ITFS response station shall operate at an excess of 16 dBW EIRP.

(d) During breaks in communications, the unmodulated carrier frequency shall be maintained within 35 kHz of the assigned frequency at all times. Adequate means shall be provided to insure compliance with this rule.

(e) Each ITFS response station shall employ a directive transmitting antenna oriented towards the transmitter site of the associated ITFS station or towards the response station hub with which the ITFS response station communicates. The beamwidth between half power points shall not exceed 15° and radiation in any minor lobe of the antenna radiation pattern shall be at least 20 dB below the power in the main lobe of radiation.

(f) A response station may be operated unattended. The overall performance of the response station transmitter shall be checked by the licensee of the station or

hub receiving the response signal, or by the licensee's employees or agents, as often as necessary to ensure that the transmitter is functioning in accordance with the requirements of the Commission's rules. The licensee of the station or hub receiving the response signal is responsible for the proper operation of the response station and must have reasonable and timely access to the response station transmitter. The response station shall be installed and maintained by the licensee of the associated station or hub, or the licensee's employees or agents, and protected in such manner as to prevent tampering or operation by unauthorized persons. No response station which has not been installed by an authorized person may lawfully communicate with any station or hub.

§ 74.950 [Removed]

42. Section 74.950 is removed.

43. In § 74.951, paragraph (b) is revised to read as follows:

§ 74.951 Modification of transmission systems.

* * * * *

(b) Any change in the antenna system affecting the direction of radiation, directive radiation pattern, antenna gain, or radiated power; provided, however, that a licensee may install a sectorized antenna system without prior consent if such system does not change polarization or result in an increase in radiated power by more than one dB in any direction, and notice of such installation is provided to the Commission on FCC Form 331 within ten (10) days of installation.

* * * * *

44. Section 74.952 is revised to read as follows:

§ 74.952 Acceptability of equipment for licensing.

ITFS transmitters must be type certified by the Commission for the particular signals that will be employed in actual operation. Either the manufacturer or the licensee must obtain transmitter certification for the transmitter by filing an application for certification with appropriate information concerning the signal waveforms and measurements.

45. In § 74.961, paragraph (a) is revised to read as follows:

§ 74.961 Frequency tolerance.

(a) The frequency of any ITFS station, or of any ITFS booster station authorized pursuant to § 74.985(b), shall be maintained within ± 1 kHz of the assigned frequency at all times when the station is in operation. ITFS 65125booster

stations authorized pursuant to § 74.985(e) and ITFS response stations authorized pursuant to § 74.939 shall employ transmitters with sufficient frequency stability to ensure that the emission stays within the authorized bandwidth. A transmitter licensed prior to November 1, 1991, that remains at the station site initially licensed and does not comply with this paragraph may continue to be used for its life if it does not cause harmful interference to the operation of any other licensee. Any non-conforming transmitter replaced after November 1, 1991, must be replaced by a transmitter meeting the requirements of this paragraph.

* * * * *

46. Section 74.965 is revised to read as follows.

§ 74.965 Posting of station license.

(a) The instrument of authorization, a clearly legible photocopy thereof, or the name, address and telephone number of the custodian of the instrument of authorization shall be available at each station, booster station authorized pursuant to § 74.985(b) and ITFS response station hub. Each operator of an ITFS booster station shall post at the booster station the name, address and telephone number of the custodian of the notification filed pursuant to § 74.985(e) if such notification is not maintained at the booster station.

(b) If an ITFS station, an ITFS booster station or an ITFS response station hub is operated unattended, the call sign and name of the licensee shall be displayed such that it may be read within the vicinity of the transmitter enclosure or antenna structure.

47. In § 74.982, paragraph (b) is revised, and new paragraph (g) is added, to read as follows:

§ 74.982 Station identification.

* * * * *

(b) Except as otherwise provided in paragraphs (c) and (d) of this section, each instructional television fixed station solely utilizing analog transmissions shall transmit its call sign at the beginning and end of each period of operation and, during operation, on the hour. Visual or aural transmissions shall be employed.

* * * * *

(g) The provisions of paragraphs (b) through (e) of this section shall not apply to any ITFS licensee's station or transmissions where digital transmissions are utilized by the ITFS licensee on any of its licensed or shifted channels.

48. Section 74.985 is revised to read as follows:

§ 74.985 Signal booster stations.

(a) An ITFS booster station may reuse channels to repeat the signals of ITFS stations or to originate signals on ITFS channels. The aggregate power flux density generated by an ITFS station and all associated signal booster stations and all simultaneously operating cochannel response stations licensed to or applied for by the applicant may not exceed -73 dBW/m² (or, when subchannels or 125 kHz channels are used, the appropriately adjusted value based upon the ratio of the channel-to-subchannel or 125 kHz bandwidths) at or beyond the boundary of the protected service area, as defined by § 21.902(d)(1) of this chapter, of the main ITFS station whose channels are being reused, as measured at locations for which there is an unobstructed signal path, unless the consent of the cochannel licensee is obtained.

(b) An ITFS licensee or conditional licensee who is a response station hub licensee, conditional licensee or applicant may secure a license for an ITFS signal booster station that has a maximum power level in excess of -9 dBW EIRP (or, when subchannels or superchannels, or 125 kHz channels, are used, the appropriately adjusted value based upon the ratio of 6 MHz to the subchannel or superchannel, or 125 kHz, bandwidth) and that employs only digital modulation with uniform power spectral density in accordance with the Commission's Declaratory Ruling and Order, 11 FCC Rcd 18839 (1996) (a "high-power ITFS signal booster station"). The applicant for a high-power ITFS signal booster station shall file FCC Form 331 with the Commission in Washington, DC, and certify on that form that the applicant has complied with the additional requirements of paragraph (b) of this section. Failure to certify compliance and to comply completely with the following requirements of paragraph (b) of this section shall result in dismissal of the application or revocation of the high-power ITFS signal booster station license, and may result in imposition of a monetary forfeiture. The applicant for a high-power ITFS signal booster station additionally is required to submit to International Transcription Services, Inc., 1231 20th Street, N.W., Washington, DC 20036, both in hard copy, and on a 3.5" computer diskette in ASCII, and likewise to submit to the Commission, only upon Commission staff request, duplicates of the Form 331 filed with the Commission, and the following information:

(1) A demonstration that the proposed signal booster station site is within the

protected service area, as defined in § 21.902(d)(1) of this chapter, of the main ITFS station whose channels are to be reused; and

(2) A demonstration that the booster service area is entirely within the protected service area of the ITFS station whose channels are being reused, or in the alternative, that the licensee entitled to any cochannel protected service area which is overlapped by the proposed booster service area has consented to such overlap; and

(3) A demonstration that the proposed booster service area can be served by the proposed booster without interference; and

(4) A study which demonstrates that the aggregate power flux density of the ITFS station and all associated booster stations and simultaneously operating cochannel response stations licensed to or applied for by the applicant does not exceed -73 dBW/m² (or, when subchannels or 125 kHz channels are used, the appropriately adjusted value based upon the ratio of the channel-to-subchannel or 125 kHz bandwidths) at or beyond the boundary of the protected service area of the main ITFS station whose channels are to be reused, as measured at locations for which there is an unobstructed signal path, unless the consent of affected licensees has been obtained; and

(5) In lieu of the requirements of § 74.903, a study which demonstrates that the proposed signal booster station will cause no harmful interference (as defined in § 74.903(a) (1) and (2)) to cochannel and adjacent channel, authorized or previously-proposed ITFS and MDS stations with protected service area center coordinates as specified in § 21.902(d) of this chapter, to any authorized or previously-proposed response station hubs, booster service areas, or I channel stations associated with such ITFS and MDS stations, or to any previously-registered ITFS receive sites, within 160.94 kilometers (100 miles) of the proposed booster station's transmitter site. Such study shall consider the undesired signal levels generated by the proposed signal booster station, the main station, all other licensed or previously-proposed associated booster stations, and all simultaneously operating cochannel response stations licensed to or applied for by the applicant. In the alternative, a statement from the affected MDS or ITFS licensee or conditional licensee stating that it does not object to operation of the high-power ITFS signal booster station may be submitted; and

(6) A description of the booster service area; and

(7) A certification that copies of the materials set forth in paragraph (b) of this section have been served upon the licensee or conditional licensee of each station (including each response station hub and booster station) required to be studied pursuant to paragraph (b)(5) of this section, and upon any affected holder of a BTA or PSA authorization pursuant to paragraph (b)(4) of this section.

(c) Applications for high-power ITFS signal booster station licenses shall be deemed minor change applications and, except as provided in § 74.911(e), may be filed at any time. Notwithstanding any other provision of part 74, applications for high-power ITFS signal booster station licenses meeting the requirements of paragraph (b) of this section shall cut-off applications that are filed on a subsequent day for facilities that would cause harmful electromagnetic interference to the proposed booster stations.

(d) Notwithstanding the provisions of § 74.912 and except as provided in § 74.911(e), any petition to deny an application for a high-power ITFS signal booster station license shall be filed no later than the sixtieth (60th) day after the date of public notice announcing the filing of such application or major amendment thereto. Notwithstanding § 74.911(d) and except as provided in § 74.911(e), an application for a high-power ITFS signal booster station license that meets the requirements of paragraph (b) of this section shall be granted on the sixty-first (61st) day after the Commission shall have given public notice of the acceptance for filing of it, or of a major amendment to it if such major amendment has been filed, unless prior to such date either a party in interest timely files a formal petition to deny or for other relief pursuant to § 74.912, or the Commission notifies the applicant that its application will not be granted. Where an application is granted pursuant to the provisions of this paragraph, the conditional licensee or licensee shall maintain a copy of the application at the ITFS booster station until such time as the Commission issues a high-power ITFS signal booster station license.

(e) Eligibility for a license for an ITFS signal booster station that has a maximum power level of -9 dBW EIRP (or, when subchannels or superchannels, or 125 kHz channels, are used, the appropriately adjusted value based upon the ratio of 6 MHz to the subchannel or superchannel, or 125 kHz, bandwidth) (a "low-power ITFS signal booster station") shall be restricted to an ITFS licensee or conditional licensee. A low-power ITFS

signal booster station may operate only on one or more ITFS channels that are licensed to the licensee of the ITFS booster station, but may be operated by a third party with a fully-executed lease or consent agreement with the ITFS conditional licensee or licensee. An ITFS licensee or conditional licensee may install and commence operation of a low-power ITFS signal booster station for the purpose of retransmitting the signals of the ITFS station or for originating signals. Such installation and operation shall be subject to the condition that for sixty (60) days after installation and commencement of operation, no objection or petition to deny is filed by an authorized cochannel or adjacent channel ITFS or MDS station with a transmitter within 8.0 kilometers (5 miles) of the coordinates of the low-power ITFS signal booster station. An ITFS licensee or conditional licensee seeking to install a low-power ITFS signal booster station under this rule must, within 48 hours after installation, submit FCC Form 331 to the Commission in Washington, DC, and submit to International Transcription Services, Inc., 1231 20th Street, NW., Washington, DC 20036, both in hard copy, and on a 3.5" computer diskette in ASCII, duplicates of the Form 331 filed with the Commission, and the following (which also shall be submitted to the Commission only upon Commission staff request at any time):

(1) A description of the signal booster technical specifications (including an antenna envelope plot or, if the envelope plot is on file with the Commission, the make and model of the antenna, antenna gain and azimuth), the coordinates of the booster, the height of the center of radiation above mean sea level, the street address of the signal booster, and a description of the booster service area; and

(2) A demonstration that the booster service area is entirely within the protected service area of the station whose channels are being reused, or, in the alternative, that the licensee entitled to any protected service area which is overlapped by the proposed booster service area has consented to such overlap; and

(3) A demonstration that the proposed booster service area can be served by the proposed booster without interference; and

(4) A certification that no Federal Aviation Administration determination of No Hazard to Air Navigation is required under part 17 of this chapter or, if such determination is required, either

(i) A statement of the FCC Antenna Structure Registration Number; or

(ii) If an FCC Antenna Structure Registration Number has not been assigned for the antenna structure, the filer must indicate the date the application by the antenna structure owner to register the antenna structure was filed with the FCC in accordance with part 17 of this chapter; and

(5) A certification that

(i) The maximum power level of the signal booster transmitter does not exceed -9 dBW EIRP (or, when subchannels or superchannels, or 125 kHz channels, are used, the appropriately adjusted value based upon the ratio of 6 MHz to the subchannel or superchannel, or 125 kHz, bandwidth); and

(ii) Where the booster is operating on channel D4, E1, F1, E2, F2, E3, F3, E4, F4 and/or G1, no registered receiver of an ITFS E or F channel station, constructed prior to May 26, 1983, is located within a 1 mile (1.61 km) radius of the coordinates of the booster, or in the alternative, that a consent statement has been obtained from the affected ITFS licensee; and

(iii) The applicant has complied with § 1.1307 of this chapter; and

(iv) Each MDS and/or ITFS station licensee (including the licensees of booster stations and response station hubs) with protected service areas and/or registered receivers within a 8 km (5 mile) radius of the coordinates of the booster has been given notice of its installation; and

(v) The signal booster site is within the protected service area of the ITFS station whose channels are to be reused; and

(vi) The aggregate power flux density of the ITFS station and all associated booster stations and simultaneously operating cochannel response stations licensed to or applied for by the applicant does not exceed -73 dBW/m² (or, when subchannels or 125 kHz channels are used, the appropriately adjusted value based upon the ratio of the channel-to-subchannel or 125 kHz bandwidths) at or beyond the boundary of the protected service area of the main ITFS station whose channels are to be reused, as measured at locations for which there is an unobstructed signal path, unless the consent of affected licensees has been obtained; and

(vii) The antenna structure will extend less than 6.10 meters (20 feet) above the ground or natural formation or less than 6.10 meters (20 feet) above an existing manmade structure (other than an antenna structure); and

(viii) The ITFS conditional licensee or licensee understands and agrees that in

the event harmful interference is claimed by the filing of an objection or petition to deny, the conditional licensee or licensee must terminate operation within two (2) hours of notification by the Commission, and must not recommence operation until receipt of written authorization to do so by the Commission.

(f) Commencing upon the filing of an application for a high-power ITFS signal booster station license and until such time as the application is dismissed or denied or, if the application is granted, a letter informing the Commission of completion of construction is submitted, an applicant for any new or modified MDS or ITFS station (including any response station hub, high-power booster station, or I channels station) shall demonstrate compliance with the interference protection requirements set forth in §§ 21.902(i) of this chapter, 21.938(b)(3) of this chapter or 74.903 with respect to any previously-proposed or authorized booster service area both using the transmission parameters of the high-power ITFS signal booster station (e.g., EIRP, polarization(s) and antenna height) and the transmission parameters of the ITFS station whose channels are to be reused by the high-power ITFS signal booster station. Upon the submission of a letter informing the Commission of completion of construction of an ITFS booster station applied for pursuant to paragraph (b) of this section, or upon the submission of an ITFS booster station notification pursuant to paragraph (e) of this section, the ITFS station whose channels are being reused by the ITFS signal booster shall no longer be entitled to interference protection pursuant to §§ 21.902(i) of this chapter, 21.938(b)(3) of this chapter and 74.903 within the booster service area based on the transmission parameters of the ITFS station whose channels are being reused. A booster station shall not be entitled to protection from interference caused by facilities proposed on or prior to the day the application or notification for the booster station is filed. A booster station shall not be required to protect from interference facilities proposed on

or after the day the application or notification for the booster station is filed.

(g) Where an application is granted under paragraph (d) of this section, if a facility operated pursuant to that grant causes harmful, unauthorized interference to any cochannel or adjacent channel facility, it must promptly remedy the interference or immediately cease operations of the interfering facility, regardless of whether any petitions to deny or for other relief were filed against the application during the application process. The burden of proving that a high-power ITFS signal booster station is not causing harmful, unauthorized interference lies on the licensee of the alleged interfering facility, following the filing of a documented complaint of interference by an affected party.

(h) In the event any MDS or ITFS receive site suffers interference due to block downconverter overload, the licensee of each signal booster station within five miles of such receive site shall cooperate in good faith to expeditiously identify the source of the interference. Each licensee of a signal booster station contributing to such interference shall bear the joint and several obligation to promptly remedy all interference resulting from block downconverter overload at any ITFS receive site registered prior to the submission of the application or notification for the signal booster station or at any receive site within an MDS or ITFS protected service area applied for prior to the submission of the application or notification for the signal booster station, regardless of whether the receive site suffering the interference was constructed prior to or after the construction of the signal booster station(s) causing the downconverter overload; provided, however, that the licensee of the registered ITFS receive site or the MDS or ITFS protected service area must cooperate fully and in good faith with efforts by the signal booster station licensee to prevent interference before constructing the signal booster station and/or to remedy interference that may

occur. In the event that more than one signal booster station licensee contributes to block downconverter interference at a MDS or ITFS receive site, the licensees of the contributing signal booster stations shall cooperate in good faith to remedy promptly the interference.

49. In § 74.986, paragraph (a) is revised, and new paragraph (a)(8) is added, to read as follows:

§ 74.986 Involuntary ITFS station modifications.

(a) Parties specified in paragraph (b) of this section may, subject to Commission approval, involuntarily modify the facilities of an existing ITFS licensee in the following situations:

* * * * *

(8) There are no response station hubs licensed to or previously-proposed by any of the parties specified in paragraph (b) of this section, in the same system as the existing ITFS licensee of whose facilities involuntary modification is sought; however, in no event shall the Commission approve an involuntary retuning of an existing ITFS licensee's station to other frequencies, except as provided in § 74.902(i) through (k).

* * * * *

50. The alphabetical index to part 74 is amended by adding "ITFS" as the last entry under the "Changes of Equipment" heading; removing the "ITFS" entry from under the "Equipment and installation" heading; removing the "ITFS" entry from under the "Equipment Performance" heading; revising the entries under the "ITFS" heading; removing the "ITFS" entry from under the "Remote control operation" heading; revising the "Signal boosters, UHF translator (LPTV/TV Translators)" heading to read "Signal boosters", and adding entries under the "Signal boosters" heading; removing the "Mutually exclusive applications, selection procedure (ITFS)" heading; revising the "Response stations (ITFS)" heading; and adding in alphabetical order a "Response station hubs (ITFS)" heading and a "Wireless cable usage of ITFS" heading, to read as follows:

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DEPARTMENT OF TRANSPORTATION**Office of the Secretary****49 CFR Part 40**

[Docket No. OST-98-4777]

RIN 2105-AC74

Amendments to Opiate Threshold Levels**AGENCY:** Office of the Secretary, DOT.**ACTION:** Final rule.

SUMMARY: This final rule makes conforming changes to the Department's drug testing procedures to incorporate changes made by the Department of Health and Human Services (DHHS) in the threshold levels of opiates. It is essential for the Department's drug testing procedures to remain consistent with the DHHS Guidelines, as Congress provided in the Omnibus Transportation Employee Testing Act of 1991.

EFFECTIVE DATE: The final rule takes effect on December 1, 1998.

FOR FURTHER INFORMATION CONTACT: Robert C. Ashby, Deputy Assistant General Counsel for Regulation and Enforcement, Room 10424, (202-366-9306); 400 7th Street, SW., Washington, DC 20590 or Mary Bernstein, Director, Office of Drug and Alcohol Policy and Compliance, Room 5405, (202-366-3784); 400 7th Street, SW., Washington, DC 20590.

SUPPLEMENTARY INFORMATION: On September 30, 1997, the Department of Health and Human Services (DHHS) published the final amendments to its Mandatory Guidelines for Federal Workplace Testing Programs (DHHS Guidelines) and indicated that May 1, 1998 would be the effective date for implementing these amendments. The amendments raised the initial and confirmatory test opiate thresholds from 300 nanograms per milliliter (ng/ml) to 2000 ng/ml. The DHHS amendments also established a new requirement to test for 6-acetylmorphine (6-AM), a metabolite that comes only from heroin, using a 10 ng/ml confirmatory level, for specimens that have tested positive for morphine on the confirmatory test at the 2000 ng/ml level.

DHHS made changes to the testing cutoff levels for opiates following a notice and opportunity for comment. DHHS received 22 comments, of which a majority favored their proposal. Under the previous standards, 87 percent of laboratory positive opiate specimens were verified as negative by medical review officers (MROs). DHHS anticipates that these amendments will eliminate the identification of most individuals legitimately taking prescriptions including morphine or codeine or who have ingested poppy seeds.

Subsequent to the publication of the final amendments, it became clear that manufacturers would not be able to provide a sufficient supply of the modified opiate test kits by the May 1, 1998 effective date. On February 4, 1998, DHHS sent a letter to all Federal

agencies, HHS certified and applicant drug testing laboratories, and immunoassay kit manufacturers informing them that the effective date would be delayed 4 to 6 months beyond the May 1, 1998 effective date.

DHHS chose December 1, 1998 as the new effective date for implementing the new opiate testing cutoff levels. DHHS was satisfied that manufacturers of test kits can provide an adequate supply of the modified opiate test kits to the laboratories by the December 1, 1998 effective date and that the laboratories would be able to use these opiate test kits to conduct the initial and confirmatory tests at the revised testing levels for opiates.

It is essential for the Department's drug testing procedures to remain consistent with the DHHS Guidelines, as Congress provided in the Omnibus Transportation Employee Testing Act of 1991. Consistency is also necessary to avoid confusion in the testing process. For these reasons, the Department is making conforming changes to its drug testing procedures in 49 CFR Part 40.

Regulatory Process Matters

The final rule is considered to be a nonsignificant rulemaking under the DOT Regulatory Policies and Procedures. It is also a nonsignificant rule for purposes of Executive Order 12886. The Department certifies, under the Regulatory Flexibility Act, that the final rule does not have a significant economic effect on a substantial number of small entities. The rule does not impose any costs or burdens on regulated entities, since it will result in