

Polymer	CAS No.
Styrene, copolymers with acrylic acid and/or methacrylic acid, with none and/or one or more of the following monomers: Acrylamidopropyl methyl sulfonic acid, methallyl sulfonic acid, 3-sulfopropyl acrylate, 3-sulfopropyl methacrylate, hydroxypropyl methacrylate, hydroxypropyl acrylate, hydroxyethyl methacrylate, and/or hydroxyethyl acrylate; and its sodium, potassium, ammonium, monoethanolamine, and triethanolamine salts	None
Styrene, 2-ethylhexyl acrylate, butyl acrylate copolymer	30795-23-4
Styrene-2-ethylhexyl acrylate-glycidyl methacrylate-2-acrylamido-2-methylpropanesulfonic acid graft copolymer	None
Styrene-maleic anhydride copolymer	None
Styrene-maleic anhydride copolymer, ester derivative	None
Tetradecyl acrylate-acrylic acid copolymer	None
Tetraethoxysilane, polymer with hexamethyldisiloxane	104133-09-7
α -[p-(1,1,3,3-Tetramethylbutyl)phenyl] poly(oxypropylene) block polymer with poly(oxyethylene); the poly(oxypropylene) content averages 25 moles, the poly(oxyethylene) content averages 40 moles	None
α -[2,4,6-Tris[1-(phenyl)ethyl]phenyl]-omega-hydroxy poly(oxyethylene) poly(oxypropylene) copolymer, the poly(oxypropylene) content averages 2-8 moles, the poly(oxyethylene) content averages 16-30 moles	None
Urea-formaldehyde copolymer	9011-05-6
Vinyl acetate-allyl acetate-monomethyl maleate copolymer	None
Vinyl acetate-ethylene copolymer	24937-78-8
Vinyl acetate polymer with none and/or one or more of the following monomers: Ethylene, propylene, N-methyl acrylamide, acrylamide, monoethyl maleate, diethyl maleate, monoethyl maleate, dioctyl maleate, maleic anhydride, maleic acid, octyl acrylate, butyl acrylate, ethyl acrylate, methyl acrylate, acrylic acid, octyl methacrylate, butyl methacrylate, ethyl methacrylate, methyl methacrylate, methacrylic acid, carboxyethyl acrylate, and diallyl phthalate; and their corresponding sodium, potassium, ammonium, isopropylamine, triethylamine, monoethanolamine and/or triethanolamine salts	None
Vinyl acetate-vinyl alcohol-alkyl lactone copolymer	None
Vinyl alcohol-disodium itaconate copolymer	None
Vinyl alcohol-vinyl acetate copolymer, benzaldehyde-o-sodium sulfonate condensate	None
Vinyl alcohol-vinyl acetate-monomethyl maleate, sodium salt-maleic acid, disodium salt-gamma-butyrolactone acetic acid, sodium salt copolymer	None
Vinyl chloride-vinyl acetate copolymers	None
Vinyl pyrrolidone-acrylic acid copolymer	28062-44-4
Vinyl pyrrolidone-dimethylaminoethylmethacrylate copolymer	30581-59-0
Vinyl pyrrolidone-styrene copolymer	25086-29-7

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FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 73

[MB Docket No. 05-312; FCC 05-192]

Digital Television Distributed Transmission System Technologies; Notice of Proposed Rulemaking

AGENCY: Federal Communications Commission.

ACTION: Proposed rule.

SUMMARY: In this document, the Commission proposes rules that will permit television broadcast licensees to use a distributed transmission system ("DTS") in lieu of a single-transmitter to operate their television broadcast stations. The proposed rules will apply with respect to existing authorized facilities and to use of DTS after establishment of the new DTV Table of Allotments, which may afford stations the opportunity to apply to maximize their service areas after the end of our current freeze on the filing of most applications.

DATES: Comments for this proceeding are due on or before February 6, 2006;

reply comments are due on or before March 7, 2006.

ADDRESSES: You may submit comments, identified by MB Docket No. 05-312, by any of the following methods:

- Federal eRulemaking Portal: <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Federal Communications Commission's Web site: <http://www.fcc.gov/cgb/ecfs/>. Follow the instructions for submitting comments.
- People with Disabilities: Contact the FCC to request reasonable accommodations (accessible format documents, sign language interpreters, CART, etc.) by e-mail: FCC504@fcc.gov

or phone: 202-418-0530 or TTY: 202-418-0432.

For detailed instructions for submitting comments and additional information on the rulemaking process, see the **SUPPLEMENTARY INFORMATION** section of this document.

FOR FURTHER INFORMATION CONTACT: For additional information on this proceeding, contact Evan Baranoff, *Evan.Baranoff@fcc.gov* of the Media Bureau, Policy Division, (202) 418-2120.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's *Notice of Proposed Rulemaking (NPRM)*, FCC 05-192, adopted on November 3, 2005, and released on November 4, 2005. The full text of this document is available for public inspection and copying during regular business hours in the FCC Reference Center, Federal Communications Commission, 445 12th Street, SW., CY-A257, Washington DC, 20554. These documents will also be available via ECFS (<http://www.fcc.gov/cgb/ecfs/>). (Documents will be available electronically in ASCII, Word 97, and/or Adobe Acrobat.) The complete text may be purchased from the Commission's copy contractor, 445 12th Street, SW., Room CY-B402, Washington, DC 20554. To request this document in accessible formats (computer diskettes, large print, audio recording, and Braille), send an e-mail to *fcc504@fcc.gov* or call the Commission's Consumer and Governmental Affairs Bureau at (202) 418-0530 (voice), (202) 418-0432 (TTY).

Initial Paperwork Reduction Act of 1995 Analysis

This *NPRM* has been analyzed with respect to the Paperwork Reduction Act of 1995 (PRA) and contains modified information collection requirements. These modified requirements of FCC Forms 301 and 302-DTV will be published in a separate **Federal Register** notice.

Summary of the Notice of Proposed Rulemaking

I. Introduction

1. In the *Second DTV Periodic Report and Order*, we approved in principle the use of distributed transmission system (DTS) technologies but deferred to a separate proceeding the development of rules for DTS operation and the examination of several policy issues related to its use. (See *Second Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television*, 69 FR 59500, October 4, 2004, (*Second DTV Periodic Report*

and Order)). With this Notice of Proposed Rulemaking (*NPRM*), we now examine the issues related to the use of DTS and propose rules for future DTS operation. The rules we propose will apply with respect to existing authorized facilities and to use of DTS after establishment of the new DTV Table of Allotments, which may afford stations the opportunity to apply to maximize their service areas after our current freeze on the filing of most applications. In addition, we issue a Clarification Order, which is published elsewhere in this issue of the **Federal Register**, to clarify the interim rules established in the *Second DTV Periodic Report and Order*, which will continue to be available for stations that wish to apply to use DTS technology during the pendency of this rulemaking proceeding.

II. Background

2. In the *Second DTV Periodic NPRM* in MB Docket No. 03-15, we sought comment on whether we should permit DTV stations to use DTS technologies. (See *Second Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television*, MB Docket No. 03-15, 68 FR 7737, February 18, 2003, (*Second DTV Periodic NPRM*)). A DTV distributed transmission system would employ multiple synchronized transmitters spread around a station's service area. Each transmitter would broadcast the station's DTV signal on the same channel, relying on the performance of "adaptive equalizer" circuitry in DTV receivers to cancel or combine the multiple signals plus any reflected signals to produce a single signal. Such distributed transmitters could be considered to be similar to analog TV booster stations, a secondary, low power service used to fill in unserved areas in the parent station's coverage area, but DTV technology has the ability to enable this type of operation in a much more efficient manner. For analog TV boosters, in contrast to DTV DTS operation, significant self-interference will occur unless there is substantial terrain blocking the arrival of multiple signals into the same area (for example, interference will occur if one signal arrives from the primary analog station directly and a second signal arrives from a booster station).

3. We received 18 comments in the *Second DTV Periodic Report and Order* relating to the use of DTS, with the parties generally supporting use of this technology. We agreed with the generally supportive comments that DTS technology offers potential benefits to the public and noted the encouraging,

though limited, reports of the technology tested thus far. Accordingly, in the *Second DTV Periodic Report and Order* we approved in principle the use of DTS technology, set forth interim guidelines, and committed to undertake a rulemaking proceeding to adopt rules for DTS operations. We now initiate that rulemaking to propose rules for future DTS operation, seek further comment on DTS operations and clarify certain aspects of the interim rules established in the *Second DTV Periodic Report and Order*.

III. Notice Of Proposed Rulemaking

4. In this *NPRM*, we consider the comments received in the *Second DTV Periodic* proceeding and propose rules for future DTS operation. Specifically, we propose to permit DTV station licensees and permittees to use DTS technologies where feasible in place of a single transmitter to provide service as authorized. Requests for DTS operation and any associated issues may be addressed under our interim policy until this rulemaking is completed and we have implemented the necessary revisions to our processing software. Requests for DTS operation that would involve an extension of authorized coverage will not be accepted until the freeze is lifted. For purposes of this discussion, we anticipate that most stations would focus on DTS operations that would be employed after we lift our current freeze on the filing of most applications, which was imposed until we complete the new DTV Table of Allotments. The *Second DTV Periodic Report and Order* imposed this freeze to limit expansion of coverage that would interfere with maintaining a stable database throughout the channel election and allotment process.

A. Comments Received in the Second DTV Periodic Review

5. The rules and policies we propose in this *NPRM* are premised, in part, on the comments submitted in response to the *Second DTV Periodic NPRM*. Although not affording an adequate basis on which to adopt final rules, the record in the *Second DTV Periodic* proceeding suggests many potential benefits of DTS, such as uniform signal levels throughout a licensee's service area, the ability to operate at reduced power to achieve the same coverage, a reduced likelihood of causing interference to neighboring licensees, an ability to overcome terrain limitations, and more reliable indoor reception. Merrill Weiss Group (MWG), the principal proponent of DTS, cited DTS' potential for improving spectrum efficiency by enabling increased levels

of service while maintaining or reducing the levels of interference. MWG has patent interests in the technology contained in the Transmitter Synchronization Standard recently approved by the ATSC. MWG has committed to the ATSC to license its technology under reasonable terms and conditions without unfair discrimination to all parties that demonstrate financial resources to meet their obligations. MWG also indicated that urban area service can be improved by DTS transmitting antennas being closer to receivers so that higher signal levels are made available from multiple directions, which can enable reception with set-top antennas instead of roof-mounted antennas. MWG claimed that DTS will often use shorter towers that may avoid zoning problems and that they can be located to overcome obstacles of rough terrain in some markets and urban canyons in others. Finally, MWG suggested that DTS transmitters can help make a staged rollout of maximized service possible. In joint comments, the Association for Maximum Service Television (MSTV) and the National Association of Broadcasters (NAB) supported quick Commission action to allow DTS.

6. Others specifically supported MWG, including Axcera, a manufacturer of transmitters and related equipment, WPSX/Penn State Public Broadcasting (WPSX/Penn State), which has an experimental authorization to test distributed transmission technology, and Tribune Broadcasting Company (Tribune) and Golden Orange Broadcasting (Golden Orange), TV licensees that face specific situations where they may want to use DTS technology. Others, such as transmission equipment manufacturer Harris Corporation (Harris) and Siete Grande Television, Inc. (Siete Grande), which operates four analog channel 7 transmitters covering different parts of Puerto Rico, also supported allowing DTS. Ronald Brey (Brey), a TV consumer, and Thomas C. Smith (Smith), a TV broadcast technician, each expressed concern that not enough is known about the performance of DTS technology and that increased interference could be caused.

7. As noted in the *Second DTV Periodic Report and Order*, the record did not provide information on the practical operation of DTS technology. Consequently, we seek additional comment here on the use of DTS technologies, as well as on the asserted benefits of this technology. Specifically, we seek comment on how DTS operation will serve the public interest and on how such operation will

advance the DTV transition. We also seek comment on the impact of allowing the use of DTS technologies. How will DTS work with all DTV receivers, including small or inexpensive digital televisions and the digital-to-analog converters many viewers will have for their analog-only televisions? Will consumers, cable headends and satellite local receive facilities need additional equipment to ensure reliable and high quality reception as compared with the equipment associated with reception of a single transmitter station's signal? Will DTS operation impact the service provided by traditional single-transmitter stations? What, if any, is the burden on local communities in permitting DTS operation? Will DTS operation require the erection of multiple telecommunications towers rather than collocation on existing towers? How will the timing of the build-out of digital service be affected by DTS? How will DTS affect the costs experienced by licensees? How will DTS technology impact small business broadcasters?

B. Regulatory Status

8. In the *Second DTV Periodic NPRM*, we asked whether DTS facilities should have primary or secondary regulatory status. We propose to afford primary regulatory status to the multiple transmitters used in DTS within the areas that such DTS transmitters are authorized to serve. The record in MB Docket 03-15 supports the grant of primary status to DTS transmitters used to serve a DTV station's authorized service area. MWG, among others, urges that primary status should be afforded to achieve at least the same maximized coverage that a DTV station would be able to achieve from a single transmitter and that DTS stations should not be required to protect secondary low power TV and TV translator stations within whatever allowable coverage area the Commission establishes.

9. Based on the comments received thus far, we believe DTS would facilitate the digital transition, and we agree with commenters that primary status within a licensee's service area is essential to obtain the benefits of spectrum efficiency offered by DTS techniques. The anticipated benefits include reaching populations that would not otherwise be served by conventional means. A station would be able to design its arrangement of DTS transmitters so that it reaches populated areas that have been obstructed by terrain or buildings from prior direct reception of its signal. It could also provide a potentially viable alternative to stations whose single-tower proposals

may have been stymied by tower height and placement limits associated with aeronautical safety or local zoning concerns. DTS techniques are expected to enable increased levels of service while at the same time maintaining or reducing the levels of interference. DTS offers an opportunity to licensees to provide better service within their coverage area, while minimizing the preclusive impact on existing and future surrounding stations.

10. Primary status for DTS transmitters is needed to protect this increased service. Without primary status, stations would be encouraged to use the less efficient conventional means (*i.e.*, increased power) to expand their service or would not enhance their service at all. If we require a station to give up primary status to any significant portion of its potential service population in order to implement DTS, we believe that few, if any stations would opt for this technology. In granting primary status, we propose to license such DTS transmitters under 47 CFR part 73 of the rules. We seek comment on the anticipated benefits of DTS and our tentative conclusion to provide primary status within a licensee's service area, as described below. We intend to use application filing and processing procedures similar to the current procedures. We seek comment on these rules and procedures.

C. Location and Service Area

11. Licensees that opt to use DTS in lieu of the traditional single transmitter should be allowed to apply for facilities to serve an area generally comparable to the area they could cover with a single transmitter. We believe we should balance the primary coverage rights between stations choosing to employ DTS and those choosing not to do so. In general, we do not believe that stations employing DTS technology should be afforded dramatically expanded primary coverage rights. Such special treatment is not necessary to implement DTS service. Accordingly, we propose to limit the area that a station can serve from its DTS operation to the equivalent of the area it could serve using a single-transmitter.

12. MWG offered two alternative approaches to this issue in its comments in MB Docket 03-15. One approach would allow DTS transmitters and the service they provide to be located anywhere within the designated market area (DMA) in which the station is located. This "DMA approach" would allow broadcasters to expand their DTS service to cover their DMA limited only by the requirement that they do not cause unacceptable interference to

another licensee. The other approach offered by MWG would allow DTS transmitters to be located within a station's "theoretically maximized DTV service contour." MWG describes the "theoretically maximized DTV service contour" as being based at the station's DTV allotment reference coordinates, with the coverage contour extended to correspond to the coverage that would be achieved if the station were authorized at the maximum effective radiated power and antenna height specified in the Commission rules. In addition, MWG suggests that a station with an authorization at a transmitter location different from the DTV allotment reference coordinates should be allowed to locate its DTS transmitters within the combination of the authorized coverage contour and the "theoretically maximized DTV service contour." This "maximized DTV contour" approach would also allow a DTS transmitter to extend service. In MWG's proposal, if a station is allowed a DTS transmitter site that is 60 miles from its reference site, the service from that DTS transmitter could extend to a distance 50 percent farther, (90 miles for this example) from the allotment reference point. (See 47 CFR 73.215(b)(2)(i): "For vacant allotments, contours are based on the presumed use, at the allotment's reference point, of the maximum ERP that could be authorized for the station class of the allotment, and antenna HAAT in the directions of concern that would result from a non-directional antenna mounted at a standard eight-radial antenna HAAT equal to the reference HAAT for the station class of the allotment.") In support of both of its proffered alternatives that would permit greater primary coverage, MWG contends that station service contours are less important in DTV than in analog TV, being used only to define the area where interference analysis is conducted. MWG claims that using any currently specified contour would be entirely too limiting in the placement and service of DTS transmitters, noting that maximization of service is a DTV objective. MWG argues that, at the very least, DTV facilities should be able to be maximized to the same extent whether a single transmitter or DTS is used.

13. Other commenters in MB Docket 03-15 support various aspects of MWG suggested approaches. Tribune agrees with the alternative suggested by MWG that primary DTS transmitters should be allowed within a theoretically maximized DTV service contour. For restrictions on both DTS transmitter location and coverage, Golden Orange

supports MWG's "DMA contour" approach where the DMA extends beyond a station's predicted Grade B service area.

14. Other commenters propose a less expansive approach. Harris recommends that DTS transmitters be located within their station's DTV service contour and not extend service outside that contour. Axcera suggests that DTS transmitters be allowed to serve beyond a station's authorized coverage area as long as the station does not increase the interference contour from a real or theoretical single transmitter system that would otherwise be permitted. Siete Grande suggests limits like the analog operation it is authorized in Puerto Rico where each transmitter's proposed Grade B service contour is contained within the licensed main station predicted Grade B coverage contour.

15. We are troubled by the implications of allowing significantly greater coverage for DTS than the coverage that can be achieved by a traditional single-transmitter station. We do not believe it is appropriate to expand significantly the coverage rights of some stations by allowing DTS operation anywhere within a station's DMA. Many DMAs cover extensive areas and the DMA approach could allow some stations to provide service into communities 100 or more miles away from their current station location. Such service could be inconsistent with our traditional focus on localism. If stations were allowed to extend their service areas through DTS operations, those extended services could conflict with exclusive territories based on contractual arrangements. Such expansion, particularly throughout a geographically large DMA, would subvert our current licensing rules by allowing a station to obtain the rights to serve a new community where a new station might otherwise be licensed. (See 47 CFR 73.623(h).) Disallowing such expansion is consistent with the statutory requirement to award new licenses through competitive bidding (auctions), as appropriate. (See 47 U.S.C. 309(j).) Such expansions may also reduce the availability of channels for new stations and thereby similarly reduce opportunities for new stations in a manner inconsistent with our TV channel allotment and licensing policies. We thus tentatively reject MWG's DMA approach.

16. Similarly, we do not believe it is appropriate to allow stations with DTS operations to extend coverage by an additional 50 percent beyond the distance that a station would be allowed to cover if it operated from a single

transmitter. Instead of either MWG approach, we believe the service areas of DTS and single-transmitter licensees should be treated as comparably as feasible. Consistent with this principle, we propose a "table of distances" below that we believe is comparable to a theoretically maximized DTV service contour. To the extent that MWG's suggested approaches seek an expansion of service areas beyond what would be permitted under our rules, we tentatively reject them. We seek comment on these tentative conclusions.

17. Accordingly, we propose to permit stations to utilize DTS to provide service over the same area that they are authorized to serve with a single transmitter. To that end, and to afford stations an opportunity to provide service using DTS over an area comparable to the area they would be authorized to serve using a single transmitter, we propose to require DTS coverage to be confined within a circle from a station's reference coordinates based on the DTV service field strengths specified in 47 CFR 73.622(e) of our rules and the maximum power and antenna height restrictions specified in 47 CFR 73.622(f). Also, zones are defined in 47 CFR 73.609. Zone 1 is generally the more heavily populated states in the northeast U.S. (extending west to the Mississippi River and south to include Norfolk and Richmond, VA, while excluding northern sections of Wisconsin, Michigan, New York, Vermont, New Hampshire and Maine). This approach is based on a set of distances from stations' reference points that reflect DTV stations' potential maximized facilities, generally allowing stations using DTS to achieve the coverage that would be achieved if the station were authorized at the maximum effective radiated power and antenna height specified in the Commission's rules. (See 47 CFR 73.622). We believe using this limited set of distances instead of individual calculation of the theoretically maximized DTV service contours as suggested by MWG will simplify determinations of allowable DTS coverage areas and will offer equal treatment of similarly situated stations. The approaches for DTS that we are considering and offering for comment are intended for use with respect to currently authorized facilities that licensees have certified in the channel election process and for future facilities changes that may be authorized after the freeze is lifted and new applications are filed. No station is automatically entitled to use the areas described by the parameters set forth in this chart to

provide DTS. Rather, DTS stations, like single-transmitter stations, can apply to use these areas to request authorization to maximize after the freeze is lifted. The circles described by the chart are the maximum DTS stations can apply for, and are derived from the maximum height and power that a single-

transmitter station is and would be able to apply for.
 18. We propose the following table of distances. As explained below, the distances represent circles within which all DTS station coverage contours must be contained. In the vast majority of cases, the appropriate circle will equal

or exceed a station's currently authorized coverage contour, including the contour within which the station certified it will provide service at the end of the transition. The rule proposed will provide for those exceptional situations in which this is not the case.

Channel	Zone (see 47 CFR 73.609)	F(50,90) field strength	ERP at HAAT	Distance
2-6	1	28 dBu	10 kW at 305 m	108 km. (67 mi.).
2-6	2 and 3	28 dBu	10 kW at 610 m	128 km. (80 mi.).
7-13	1	36 dBu	30 kW at 305 m	101 km. (63 mi.).
7-13	2 and 3	36 dBu	30 kW at 610 m	123 km. (77 mi.).
14-69	1, 2 and 3	41 dBu	1000 kW at 365 m	103 km. (64 mi.).

We propose to use a reference point for each DTV station that is based on its certification in the post-transition DTV channel election process that was detailed in the *Second DTV Periodic Report and Order*. We seek comment on whether a different reference point should be used, for example based on a station's initial DTV allotment or the allotment established in its individual DTV channel change rule making. We note that some stations may desire a different reference point and request comment on what process could be used to change reference points without circumventing the limits created by the proposed distance table. We seek comment on these proposals and conclusions.

19. In parts of the country where the terrain is uniform, the proposed "table of distances" illustrates the area that a station could serve if it operated a single-transmitter at maximum power and height allowed by our current rules. Reliance on this table can facilitate licensees' use of DTS by eliminating the need for a two-step process: First calculating the antenna height necessary to match the maximum allowed average antenna height and power for a single transmitter and then calculating the distances to the service contour in every direction based on the antenna height above the terrain in that direction. Because most stations are not in areas where variations in the terrain result in significant variations in the coverage dependent on which direction from the transmitter is being considered, the table shows the distance most stations could serve if they operated a single-transmitter at maximum power and height allowed by our current rules.

20. We also propose to use the table of distances in areas in which irregular terrain is an issue. In such locations, single-transmitter stations' maximum service areas are distorted from a circular coverage contour to varying

degrees. Coverage contours of stations using non-directional transmitting antennas will be circular except where the surrounding terrain has a different average height in different directions. For example, if the average terrain to the North is 500 feet above mean sea level and the average terrain to the South is 1000 feet above mean sea level, the coverage contour will extend further to the north than it does to the south. Where coverage does not reach as far due to terrain in one direction, a station would have a correspondingly larger coverage distance in other directions. In these cases, stations' single-transmitters may be authorized to serve people outside of the circular coverage contour because the average terrain calculation has allowed the station to be authorized for a larger coverage contour in one direction (one that would not have been reached if there was no terrain issue). In these circumstances, stations would be authorized to provide DTV service within their authorized coverage area. We seek comment on this.

21. We seek comment on the usefulness of this Table and the validity of the underlying assumptions. We also seek comment on the effect of such assumptions on the scope and range of the service area and populations to be served by stations that use DTS. Would this inadvertently result in significantly expanded areas of service beyond what our current maximization rules contemplate? Or would the result be more effective service over the typical potential area? We seek comment on alternative ways to determine the service areas appropriate for DTS operation, as well as alternate methods to determine or limit incidental expansion of service areas.

22. Finally, as we noted in the Interim Rules adopted in the *Second DTV Periodic Report and Order*, we are concerned that DTS operators not use DTS technology to favor some

populations within their service area over others, a practice sometimes referred to as "cherry-picking." We propose to maintain the protections against cherry-picking that we adopted in the Interim Rules and continue to require that licensees using DTS technology provide, at a minimum, essentially the same level of service they would using their single-transmitter facilities. We recognize that some difference in coverage between conventional and DTS operations may be unavoidable, but we intend to keep this concern and public service obligation in mind when we review applications to use DTS technology. We seek comment on how best to account for these differences while maintaining that DTS systems comply with the requirement to serve essentially the same population as conventional systems. At a minimum, we propose that we would deny any application to construct DTS facilities that would result in loss of service to the population currently served within the licensee's service contour. We note that, under our interim policy, we now consider this issue on a case-by-case basis to determine if the DTS operator would serve "essentially all of its replication coverage area," which would include all viewers within the station's replicated service area who are predicted to be served by the station's current analog transmitter. We expect that these viewers would be predicted to receive the minimally necessary signal strength (based on the FCC curves F(50,90) propagation model) from at least one DTS transmitter. We seek comment on this approach, but also ask whether a more objective standard can be used to prevent cherry-picking while allowing for differences in technologies.

D. Power, Antenna Height and Emission Mask

23. We received several comments in MB Docket 03–15 concerning power, antenna height and other operational standards of DTS transmitters. MWG suggested that for these parameters, the existing rules for DTV stations can be applied to distributed transmitters with little or no modification. MWG described distributed transmitters as being inherently limited by the need to meet interference requirements with respect to neighboring stations. Thus, MWG concluded there was no reason to impose different limits on the maximum power and antenna height for each distributed transmitter than the limits specified in 47 CFR 73.622(f)(5) for single transmitter DTV stations. MWG also stated that the relative powers of distributed transmitters in a network must be carefully chosen to optimize the service the network provides and should not be unnecessarily constrained. MWG also argued there is no reason to impose different emission mask requirements on distributed transmitters than those imposed on single DTV transmitters. Siete Grande suggested that each distributed transmitter should meet the requirements that apply to single main transmitters, including maximum operating power and compliance with radio frequency exposure guidelines and other environmental rules. WPXS/Penn State supports the positions and proposed rules submitted by MWG.

24. For each distributed transmitter in a DTS system, we propose to apply the existing Part 73 DTV effective radiated power, antenna height and emission mask rules applicable to single-transmitter DTV stations. Specifically, we believe there will be no adverse impact on other stations if we require that each transmitter in a DTS system conform to the maximum power and emission mask requirements applicable to single-transmitter DTV stations. This approach should offer DTS stations flexibility in designing their system to maximize DTV service while limiting their potential interference in light of the service area limitations and interference protection requirements proposed in this *NPRM*.

E. Licensing Issues

25. We propose that DTS transmitters will not be separately licensed, but will be part of a linked group that will be covered by one construction permit and license. Unless otherwise indicated, we propose to apply the current requirements and processes for DTV stations, or, where appropriate, analog

TV stations. For example, the normal CP expiration dates will apply. (See 47 CFR 73.624(d) and 73.3598.) We seek comment on this approach and on how to provide licensees and permittees with flexibility to serve viewers as quickly as possible but without the risk of commencing service in one area while delaying service to another area containing fewer or less affluent viewers (*i.e.*, cherry-picking). Under our proposal, licensees will request authority to construct DTS facilities by filing a single application that includes either a main transmitter and one or more additional transmitters that will collectively use the DTS technology, or two or more smaller DTS transmitters. For example: 47 CFR 73.1690(b) requires a construction permit be granted before a new tower structure is built for broadcast purposes, or a station's geographic coordinates are changed or effective radiated power is increased; 47 CFR 73.3533 requires that a Form 301 be used by commercial broadcast stations seeking a construction permit and Form 340 be used by noncommercial educational broadcast stations; 47 CFR 73.3572 describes the processing of TV broadcast station applications; and 47 CFR 73.3598 specifies the period of construction (but 47 CFR 73.624(d) specifies DTV build-out dates). A licensee may add to its DTS network of transmitters using a minor change application for a construction permit to change a licensed DTV facility, or for a modified construction permit to change a DTV facility authorized by a construction permit. Such applications will be processed in accordance with our processing rules and guidelines. However, at least one of a licensee's DTS transmitters must provide coverage of the station's community of license in accordance with 47 CFR 73.625 of our rules. We request specific comment on whether service in the principal community can be relied upon if it is provided from multiple transmitters (where the interaction between the signals from the different transmitters may make reception difficult or impossible in some part of the overlapping coverage areas). We seek comment on our proposals. We also seek comment on whether additional or different restrictions would be appropriate for DTS transmitters.

F. Interference Protection

26. We received several comments in MB Docket No. 03–15 concerning the standards needed to protect DTS operations from interference and the standards needed to protect other stations from interference from DTS

transmitters. MWG suggested that distributed transmitters should be subject to the same interference calculations as for single-transmitter stations, except that, first, the service provided by a DTS operation would include each location predicted to be served by at least one of the DTS transmitters, and second, the interference effect on each protected station should be the accumulated effect of all of the distributed transmitters in the network. MWG contends that this approach is necessary to avoid double counting of the interference caused or received. MWG argued that the single-transmitter standards for *de minimis* interference should apply to the overall service and interference. MWG noted that allotment of adjacent channels in the same area can preclude DTS use, especially in the case of analog TV stations within four channels above or below the intended DTS channel. MWG asserted that the Commission's interference analysis software can be extended to account for DTS stations without requiring a major overhaul of the program. MWG said the distributed transmitters would have to be linked in the Commission database so the software could consider the service and interference effects of all the transmitters of a DTS station as a single composite service area or interference source. Finally, MWG suggested that for purposes of analyzing interference from its neighbors, internal interference between DTS transmitters in a single system should be ignored.

27. We seek comment on these issues. In particular, we seek comment on whether to calculate interference based on each DTS transmitter individually, as proposed by MWG, or based more conservatively on the combined signals of all the DTS transmitters. In either case, the cumulative population predicted to lose service due to interference from all DTS transmitters would be used to determine compliance with the same *de minimis* interference standard as used for single-transmitter stations. We do not believe that there is a significant difference between the two approaches, but seek comment on this point.

28. We seek comment concerning ongoing experimental operations that might help us develop a more appropriate mechanism for considering the interference caused or received by a DTS operation. We note that the timing of introducing regular DTS service will depend on completing this rule making and making necessary modifications to our application processing software. As we approach the end of the transition, the key interference considerations will

become DTV to DTV, which relieves concerns expressed by MWG that potential interference to adjacent channel NTSC stations may make DTS unusable in some areas.

G. Technical Standards

29. We received several comments in MB Docket 03–15 concerning the technical standards to be used for the synchronization of multiple DTV transmitters. At the time of those comments, the Advanced Television Systems Committee (ATSC) was developing a new standard for such synchronization. (See ATSC A/110A, Synchronization Standard for Distributed Transmission (July 19, 2005). ATSC standards are available at www.atsc.org/standards.html). According to an ATSC press release, “The new standard defines the mechanisms for synchronization of transmitters emitting 8–VSB signals in accordance with the ATSC DTV Standard (A/53C). It also provides for adjustment of transmitter timing and other characteristics through additional information carried within the specified packet structure.” ATSC indicated that transmissions pursuant to the then candidate standard comply fully with the ATSC A/53 standard that the Commission has mandated for DTV stations, so use of the then candidate standard would not require Commission action. MWG also stated that the technical standard for distributed transmitters should be the same as for single transmitters and that it was unnecessary to add additional technical requirements unrelated to providing interference protection to neighboring stations. MWG suggested that the internal workings of DTS should follow the standard that was then in the ATSC approval process, and would not require Commission rules. MWG further indicated that the Commission should limit its restrictions on DTS operation so that necessary adjustments can be made without the need for amending Commission rules or modifying station authorizations.

30. We note that ATSC has approved standard A/110A, titled “Synchronization Standard for Distributed Transmission.” As consistently suggested by comments, at this early stage in the introduction of this technology, we do not believe it is necessary or appropriate to propose to mandate compliance with this, or any other, synchronization standard. Operation that is consistent with the current standard or other future appropriate technologies will likely minimize the internal interference that a station effectively would be causing to

itself. However ATSC standard A/110A, § 1.2 of the Commission’s rules advised that “* * *, while Distributed Transmission holds the potential to greatly improve the coverage and service areas of DTV transmission, it also holds the potential to cause interference within the network that some receivers, particularly early designs, may not be able to handle. Consequently, Distributed Transmission Networks must be carefully designed to minimize the burden placed on the adaptive equalizers in such legacy receivers while maximizing the improvement in signals delivered to the public. The impact on any specific receiver will depend upon the receiver’s location, the use of directional antennas, and other factors related to the design of the receiver.” At the same time, the interference effect on other stations would not be affected by the synchronization or lack of synchronization of the DTS transmitters in accordance with the standard. It is clearly in the DTS station’s self-interest to minimize its internal interference. We encourage stations that are using DTS technology to provide us with data on the performance of the technology and the extent to which internal interference is minimized.

31. We note that stations must comply with the ATSC standards for digital television. We do not intend to require compliance with a particular synchronization standard, provided that the synchronization technology used is effective and otherwise consistent with our rules (47 CFR 73.682(d); ATSC A/53B, Standard: Digital Television Standard, Revision B with Amendments 1 and 2 (May 19, 2003)). We propose to avoid requiring licensees to use a particular synchronization approach that would necessarily require use of a patented technology. We note that MWG has patent interests in the technology contained in the Synchronization Standard for Distributed Transmission document that has been approved by the ATSC. What is the likely effect of such patents on potential users of DTS technology? Would such patent interests adversely affect licensees’ use of the proposed DTS service? Does the Commission need to take steps to ensure that licenses to MWG’s technology and any other patented technology that might be developed to implement DTS are offered on a reasonable and nondiscriminatory basis? Are there other means of using DTS that would not necessitate obtaining a license for patented technology or equipment?

H. Class A, Low Power, Translator and Booster Television Stations

32. In the proceeding that established the Class A television service, the Commission required certain proposals for new or modified DTV service to protect Class A and digital Class A TV service (e.g., application proposals for DTV service maximization filed after May 1, 2000) (*Establishment of a Class A Television Service*, 65 FR 29985–01, paragraph 72 (May 10, 2000), *on recon*, 66 FR 21681, May 1, 2001 and 47 CFR 73.623(c)(5)). Full-service licensees wishing to use DTS technology must protect Class A stations to the same extent as stations using a single transmitter.

33. We propose to permit Class A TV licensees to use DTS technologies to operate a single frequency network of a group of commonly owned digital Class A stations that carry common locally produced programming within the market area served by the station group. The market area for locally produced programming of a digital Class A station is the area within the station’s predicted DTV noise-limited contour, as defined in § 73.622(e) of the Commission’s rules, based on the station’s authorized facilities (*Amendment of Parts 73 and 74 of the Commission’s Rules to Establish Rules for Digital Low Power Television, Television Translator, and Television Booster Stations and to Amend Rules for Digital Class A Television Stations*, 69 FR 69325, November 29, 2004 (*Digital LPTV Report and Order*)). With respect to a group of commonly owned stations, digital Class A stations whose predicted noise-limited contours are physically contiguous to each other comprise the market area for locally produced programming (47 CFR 73.6000(2)). In conventional arrangements of commonly owned stations, the individual stations generally operate on different TV channels in order to avoid interference to reception. Use of a common channel in a Class A station group using DTS technology would promote spectrum efficiency and might also provide an alternative for licensees whose stations face channel displacement. Under this proposal, in most respects, the operation of the Class A stations in such DTS networks would be the same as their operation as stand-alone digital stations (e.g., protected service area and permitted effective radiated power). As a significant difference, these stations would be interconnected and operate on a common TV channel. Thus, these stations would be authorized with the same “primary” regulatory status

accorded stand-alone digital Class A stations. We seek comment on this proposal.

34. More generally, we seek comment on whether to permit a Class A or LPTV licensee or permittee to use DTS technology to operate single frequency networks within the protected contour of its authorized station. We note that the service area of a Class A or LPTV station is typically much smaller than that of a DTV broadcast station and, thus, Class A and low power licensees may have less need for distributed stations. Yet, there may be situations in which licensees could benefit from use of DTS technology (e.g., the ability to overcome terrain limitations or for purposes of interference avoidance).

35. To the extent, if any, that we were to permit use of DTS technology in the Class A and LPTV services, we seek comment on appropriate rules to govern the authorization and operation of such service. How should we determine permissible transmitter locations in such DTS systems and protected service areas? For example, we envision that the protected area of a DTS network of a group of commonly owned Class A stations would be the combined area of the protected signal contours of the stations comprising the group. Should we apply the power and emission limits that now govern digital LPTV and Class A stations? We would be inclined to use the general approach for interference analysis that we would adopt for DTS in the DTV service (i.e., interference predictions based on individual transmitters or aggregation of the transmitters in the system), using the desired-to-undesired ("D/U") signal strength ratios and other prediction criteria applicable to digital Class A and LPTV stations (e.g., 47 CFR 73.6010, 73.6016, 73.6017, 73.6018, 73.6019 and 73.6022).

36. We also seek comment on the impact of our DTS proposals on the need for low power digital booster stations. Will DTS transmitters, as MWG suggests, reduce the need for such stations, or is there a purpose for both types of stations (e.g., due to differences in the costs and technical complexity of digital boosters and DTS stations)? In the digital LPTV proceeding, we declined to establish a digital TV booster station class. We concurred with commenters that "we should resolve issues regarding distributed transmission systems before further considering whether to authorize on-channel digital boosters." (See *Digital LPTV Report and Order*, 69 FR 69325, November 29, 2004). In so doing, we noted our expectation that such stations would be primarily used by full-service

broadcasters to serve terrain-shadowed portions of their service areas, in the manner of analog boosters. To what extent does our allowance in the digital LPTV proceeding for on-channel digital TV translators reduce the need for digital boosters? The regulation of on-channel digital translator stations differs in several respects from that of analog booster stations. Unlike on-channel digital translators, analog boosters are licensed only to TV broadcast licensees and permittees, must be located inside the station's protected contour (analog Grade B contour), and the predicted service contour of the booster may not extend beyond that of the signal being retransmitted. Applications for analog booster stations may be filed at any time; applications for on-channel digital TV translators must be filed under the procedures for new digital stations in the LPTV service.

37. In addition, MWG suggests that DTS technology can effectively replace networks of translators using the primary station channel and a single additional channel as part of the translator license. An example of such a two-channel scenario would start with a station transmitting from a main tower site on its original channel, providing adequate reception to a distance of about 30 miles. Communities at the edge of that service range would receive a stronger, more reliable signal from transmitters located near those communities using the additional channel that would not have an interference interaction with the original channel. Communities 40 miles from the main tower site might be at the edge of service from the transmitters using the additional channel, but could be served by more transmitters using the original channel with less chance of interference. In such cases, MWG urges that the operation on the additional (relay) channel should also be treated as primary. We do not believe that use of the "single additional channel," as suggested by MWG, is an essential component of DTS service, and we reject the suggestion that it be afforded primary status as inconsistent with our desire to avoid favoring DTS stations over non-DTS stations, but we note that for either category of DTV station, we would permit use of an "additional channel" for a DTV translator with secondary regulatory status.

IV. Procedural Matters

A. Initial Regulatory Flexibility Act Analysis

38. As required by the Regulatory Flexibility Act of 1980, as amended (RFA) the Commission has prepared this

present Initial Regulatory Flexibility Analysis (IRFA) concerning the possible significant economic impact on small entities by the policies and rules proposed in this Notice of Proposed Rulemaking (NPRM). Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments provided in Section V.D. of the NPRM. The Commission will send a copy of the NPRM, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA). In addition, the NPRM and IRFA (or summaries thereof) will be published in the **Federal Register**.

B. Need for and Objectives of the Proposed Rules

39. The NPRM proposes rules that will permit television broadcast licensees to use a distributed transmission system (DTS) in lieu of a single-transmitter to operate their television broadcast stations. The proposed rules will apply with respect to existing authorized facilities and to use of DTS after establishment of the new DTV Table of Allotments, which may afford stations the opportunity to apply to maximize their service areas after the end of our current freeze on the filing of most applications. (A DTV distributed transmission system would employ multiple synchronized transmitters spread around a station's service area. Each transmitter would broadcast the station's DTV signal on the same channel, relying on the performance of "adaptive equalizer" circuitry in DTV receivers to cancel or combine the multiple signals plus any reflected signals to produce a single signal.)

C. Legal Basis

40. The authority for the action proposed in this rulemaking is contained in sections 1, 4(i) and (j), 5(c)(1), 7, 301, 302, 303, 307, 308, 309, 316, 319, 324, 336, and 337 of the Communications Act of 1934, 47 U.S.C. 151, 154(i) and (j), 155(c)(1), 157, 301, 302, 303, 307, 308, 309, 316, 319, 324, 336, and 337.

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

a. *Entities Directly Affected By Proposed Rules.* 41. The RFA directs the Commission to provide a description of and, where feasible, an estimate of the number of small entities that will be affected by the proposed rules, if adopted. The RFA generally defines the term "small entity" as having the same

meaning as the terms "small business," "small organization," and "small government jurisdiction." In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act. 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.

42. The proposed rules contained in this *NPRM* will permit television broadcast licensees to use a distributed transmission system (DTS) in lieu of a single-transmitter to operate their television broadcast stations. We believe television broadcast licensees will be directly affected by the proposed rules, if adopted. We do not believe any other types of entities will be directly affected by the proposed rules, but request comment on this tentative conclusion. Therefore, in this *IRFA*, we invite comment on the impact of the proposed rules on small television broadcast stations. A description of such small entities, as well as an estimate of the number of such small entities, is provided below.

43. *Television Broadcasting.* The proposed rules and policies could apply to television broadcast licensees, and potential licensees of television service. The SBA defines a television broadcast station as a small business if such station has no more than \$12 million in annual receipts. Business concerns included in this industry are those "primarily engaged in broadcasting images together with sound." (This category description continues, "These establishments operate television broadcasting studios and facilities for the programming and transmission of programs to the public. These establishments also produce or transmit visual programming to affiliated broadcast television stations, which in turn broadcast the programs to the public on a predetermined schedule. Programming may originate in their own studios, from an affiliated network, or from external sources." Separate census categories pertain to businesses primarily engaged in producing programming.) According to Commission staff review of the BIA Publications, Inc. Master Access Television Analyzer Database (BIA) on October 18, 2005, about 873 of the 1,307 commercial television stations (or about 67 percent) have revenues of \$12 million or less and thus qualify as small entities under the SBA definition. We note, however, that, in assessing whether a business concern qualifies as small under the above definition,

business (control) affiliations must be included. Our estimate, therefore, likely overstates the number of small entities that might be affected by our action, because the revenue figure on which it is based does not include or aggregate revenues from affiliated companies.

44. In addition, an element of the definition of "small business" is that the entity not be dominant in its field of operation. We are unable at this time to define or quantify the criteria that would establish whether a specific television station is dominant in its field of operation. Accordingly, the estimate of small businesses to which rules may apply do not exclude any television station from the definition of a small business on this basis and are therefore over-inclusive to that extent. Also as noted, an additional element of the definition of "small business" is that the entity must be independently owned and operated. We note that it is difficult at times to assess these criteria in the context of media entities and our estimates of small businesses to which they apply may be over-inclusive to this extent.

45. *Class A TV, LPTV, and TV translator stations.* The proposed rules and policies could also apply to licensees of Class A TV stations, low power television (LPTV) stations, and TV translator stations, as well as to potential licensees in these television services. The same SBA definition that applies to television broadcast licensees would apply to these stations. The SBA defines a television broadcast station as a small business if such station has no more than \$12 million in annual receipts.

46. Currently, there are approximately 598 licensed Class A stations, 2,098 licensed LPTV stations, 4,491 licensed TV translators and 11 TV booster stations. Given the nature of these services, we will presume that all of these licensees qualify as small entities under the SBA definition. We note, however, that under the SBA's definition, revenue of affiliates that are not LPTV stations should be aggregated with the LPTV station revenues in determining whether a concern is small. Our estimate may thus overstate the number of small entities since the revenue figure on which it is based does not include or aggregate revenues from non-LPTV affiliated companies. We do not have data on revenues of TV translator or TV booster stations, but virtually all of these entities are also likely to have revenues of less than \$12 million and thus may be categorized as small, except to the extent that revenues of affiliated non-translator or booster entities should be considered.

b. Entities Believed To Be Not Directly Affected By Proposed Rules. 47. Because the rules proposed in this *NPRM* pertain only to the technology employed in broadcasting, we do not believe the rules will directly affect program distribution and, therefore, we do not believe that our proposed rules will directly affect cable operators or multichannel video programming distributors (MVPDs), such as Direct Broadcast Satellite (DBS) providers, private cable operators (PCOs), also known as satellite master antenna television (SMATV) systems, home satellite dish (HSD) services, multipoint distribution services (MDS)/multichannel multipoint distribution service (MMDS), Instructional Television Fixed Service (ITFS), local multipoint distribution service (LMDS) and open video systems (OVS). Nevertheless, we seek comment on this tentative conclusion and, although such comment is not required by the RFA, we invite comment from any small cable operators or small MVPDs who believe they might be directly affected by our proposed rules contained in the Notice.

48. *Cable and Other Program Distribution.* Cable system operators fall within the SBA-recognized definition of Cable and Other Program Distribution, which includes all such companies generating \$12.5 million or less in revenue annually. According to the Census Bureau data for 1997, there were a total of 1,311 firms that operated for the entire year in the category of Cable and Other Program Distribution. Of this total, 1,180 firms had annual receipts of under \$10 million and an additional 52 firms had receipts of \$10 million or more, but less than \$25 million. (U.S. Census Bureau, 1997. Economics and Statistics Administration, Bureau of Census, U.S. Department of Commerce, 1997 Economic Census, Subject Series—Establishment and Firm Size, Information Sector 51, Table 4 at 50 (2000). The amount of \$10 million was used to estimate the number of small business firms because the relevant Census categories stopped at \$9,999,999 and began at \$10,000,000. No category for \$12.5 million existed. Thus, the number is as accurate as it is possible to calculate with the available information.) In addition, limited preliminary census data for 2002 indicates that the total number of Cable and Other Program Distribution entities increased approximately 46 percent between 1997 and 2002. (See U.S. Census Bureau, 2002 Economic Census, Industry Series: "Information," Table 2, Comparative Statistics for the United States (1997 NAICS Basis): 2002 and

1997, NAICS code 513220 (issued Nov. 2004). The preliminary data indicate that the number of total "establishments" increased from 4,185 to 6,118. In this context, the number of establishments is a less helpful indicator of small business prevalence than is the number of "firms," because the latter number takes into account the concept of common ownership or control. The more helpful 2002 census data on firms, including employment and receipts numbers, will be issued in late 2005.) The Commission estimates that the majority of providers in this category of Cable and Other Program Distribution are small businesses.

49. *Cable System Operators (Rate Regulation Standard)*. The Commission has developed, with SBA's approval, its own definition of a small cable system operator for the purposes of rate regulation. Under the Commission's rules, a "small cable company" is one serving 400,000 or fewer subscribers nationwide. (See 47 CFR 76.901(e).) The Commission developed this definition based on its determinations that a small cable system operator is one with annual revenues of \$100 million or less. For "regulatory simplicity," the Commission established the company size standard in terms of subscribers, rather than dollars; in the cable context, \$100 million in annual regulated revenues equates to approximately 400,000 subscribers.) We last estimated that there were 1,439 cable operators that qualified as small cable companies at the end of 1995. Since then, some of those companies may have grown to serve more than 400,000 subscribers, and others may have been involved in transactions that caused them to be combined with other cable operators. Consequently, we estimate that there are fewer than 1,439 small entity cable system operators that may be affected by the proposals contained in this NPRM.

50. *Cable System Operators (Telecom Act Standard)*. The Communications Act of 1934, as amended, also contains a size standard for a "small cable operator," which is "a cable operator that, directly or through an affiliate, serves in the aggregate fewer than one percent of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed \$250,000,000." The Commission has determined that there are 67.7 million subscribers in the United States. Therefore, an operator serving fewer than 677,000 subscribers shall be deemed a small operator, if its annual revenues, when combined with the total annual revenues of all of its affiliates, do not exceed \$250 million in the

aggregate. Based on available data, we estimate that the number of cable operators serving 677,000 subscribers or less totals approximately 1,450. The Commission neither requests nor collects information on whether cable system operators are affiliated with entities whose gross annual revenues exceed \$250 million, and therefore is unable at this time to estimate more accurately the number of cable system operators that would qualify as small cable operators under the size standard contained in the Communications Act.

51. *Direct Broadcast Satellite (DBS) Service*. DBS service is a nationally distributed subscription service that delivers video and audio programming via satellite to a small parabolic "dish" antenna at the subscriber's location. Because DBS provides subscription services, DBS falls within the SBA-recognized definition of Cable and Other Program Distribution. This definition provides that a small entity is one with \$12.5 million or less in annual receipts. Currently, only four operators hold licenses to provide DBS service, which requires a great investment of capital for operation. All four currently offer subscription services. Two of these four DBS operators, DirecTV and EchoStar Communications Corporation (EchoStar), report annual revenues that are in excess of the threshold for a small business. A third operator, Rainbow DBS, is a subsidiary of Cablevision's Rainbow Network, which also reports annual revenues in excess of \$12.5 million, and thus does not qualify as a small business. DirecTV is the largest DBS operator and the second largest MVPD, serving an estimated 13.04 million subscribers nationwide. EchoStar, which provides service under the brand name Dish Network, is the second largest DBS operator and the fourth largest MVPD, serving an estimated 10.12 million subscribers nationwide. Rainbow DBS, which provides service under the brand name VOOM, reported an estimated 25,000 subscribers. The fourth DBS operator, Dominion Video Satellite, Inc. (Dominion), offers religious (Christian) programming and does not report its annual receipts. Dominion, which provides service under the brand name Sky Angel, does not publicly disclose its subscribership numbers on an annualized basis. The Commission does not know of any source which provides this information and, thus, we have no way of confirming whether Dominion qualifies as a small business. Because DBS service requires significant capital, we believe it is unlikely that a small entity as defined by the SBA would

have the financial wherewithal to become a DBS licensee. Nevertheless, given the absence of specific data on this point, we acknowledge the possibility that there are entrants in this field that may not yet have generated \$12.5 million in annual receipts, and therefore may be categorized as a small business, if independently owned and operated.

52. *Private Cable Operators (PCOs)* also known as Satellite Master Antenna Television (SMATV) Systems. PCOs, also known as SMATV systems or private communication operators, are video distribution facilities that use closed transmission paths without using any public right-of-way. PCOs acquire video programming and distribute it via terrestrial wiring in urban and suburban multiple dwelling units such as apartments and condominiums, and commercial multiple tenant units such as hotels and office buildings. The SBA definition of small entities for Cable and Other Program Distribution Services includes PCOs and, thus, small entities are defined as all such companies generating \$12.5 million or less in annual receipts. Currently, there are approximately 135 members in the Independent Multi-Family Communications Council (IMCC), the trade association that represents PCOs. Individual PCOs often serve approximately 3,000–4,000 subscribers, but the larger operations serve as many as 15,000–55,000 subscribers. In total, PCOs currently serve approximately 1.1 million subscribers. Because these operators are not rate regulated, they are not required to file financial data with the Commission. Furthermore, we are not aware of any privately published financial information regarding these operators. Based on the estimated number of operators and the estimated number of units served by the largest ten PCOs, we believe that a substantial number of PCO qualify as small entities.

53. *Home Satellite Dish (HSD) Service*. Because HSD provides subscription services, HSD falls within the SBA-recognized definition of Cable and Other Program Distribution, which includes all such companies generating \$12.5 million or less in revenue annually. HSD or the large dish segment of the satellite industry is the original satellite-to-home service offered to consumers, and involves the home reception of signals transmitted by satellites operating generally in the C-band frequency. Unlike DBS, which uses small dishes, HSD antennas are between four and eight feet in diameter and can receive a wide range of unscrambled (free) programming and scrambled programming purchased from

program packagers that are licensed to facilitate subscribers' receipt of video programming. There are approximately 30 satellites operating in the C-band, which carry over 500 channels of programming combined; approximately 350 channels are available free of charge and 150 are scrambled and require a subscription. HSD is difficult to quantify in terms of annual revenue. HSD owners have access to program channels placed on C-band satellites by programmers for receipt and distribution by MVPDs. Commission data shows that, between June 2003 and June 2004, HSD subscribership fell from 502,191 subscribers to 335,766 subscribers, a decline of more than 33 percent. The Commission has no information regarding the annual revenue of the four C-Band distributors.

54. *Wireless Cable Systems.* Wireless cable systems use the Multipoint Distribution Service (MDS) and Instructional Television Fixed Service (ITFS) frequencies in the 2 GHz band to transmit video programming and provide broadband services to subscribers. Local Multipoint Distribution Service (LMDS) is a fixed broadband point-to-multipoint microwave service that provides for two-way video telecommunications. As previously noted, the SBA definition of small entities for Cable and Other Program Distribution, which includes such companies generating \$12.5 million in annual receipts, appears applicable to MDS, ITFS and LMDS. In addition, the Commission has defined small MDS and LMDS entities in the context of Commission license auctions.

55. In the 1996 MDS auction, the Commission defined a small business as an entity that had annual average gross revenues of less than \$40 million in the previous three calendar years. This definition of a small entity in the context of MDS auctions has been approved by the SBA. In the MDS auction, 67 bidders won 493 licenses. Of the 67 auction winners, 61 claimed status as a small business. At this time, the Commission estimates that of the 61 small business MDS auction winners, 48 remain small business licensees. In addition to the 48 small businesses that hold BTA authorizations, there are approximately 392 incumbent MDS licensees that have gross revenues that are not more than \$40 million and are thus considered small entities. MDS licensees and wireless cable operators that did not participate in the MDS auction must rely on the SBA definition of small entities for Cable and Other Program Distribution. Information available to us indicates that there are approximately 850 of these licensees

and operators that do not generate revenue in excess of \$12.5 million annually. Therefore, we estimate that there are approximately 850 small MDS providers as defined by the SBA and the Commission's auction rules.

56. While SBA approval for a Commission-defined small business size standard applicable to ITFS is pending, educational institutions are included in this analysis as small entities. There are currently 2,032 ITFS licensees, and all but 100 of these licenses are held by educational institutions. Thus, the Commission estimates that at least 1,932 ITFS licensees are small businesses.

57. In the 1998 and 1999 LMDS auctions, the Commission defined a small business as an entity that had annual average gross revenues of less than \$40 million in the previous three calendar years. The Commission has held two LMDS auctions: Auction 17 and Auction 23. Auction No. 17, the first LMDS auction, began on February 18, 1998, and closed on March 25, 1998. (104 bidders won 864 licenses.) Auction No. 23, the LMDS re-auction, began on April 27, 1999, and closed on May 12, 1999. (40 bidders won 161 licenses.) Moreover, the Commission added an additional classification for a "very small business," which was defined as an entity that had annual average gross revenues of less than \$15 million in the previous three calendar years. These definitions of "small business" and "very small business" in the context of the LMDS auctions have been approved by the SBA. In the first LMDS auction, 104 bidders won 864 licenses. Of the 104 auction winners, 93 claimed status as small or very small businesses. In the LMDS re-auction, 40 bidders won 161 licenses. Based on this information, we believe that the number of small LMDS licenses will include the 93 winning bidders in the first auction and the 40 winning bidders in the re-auction, for a total of 133 small entity LMDS providers as defined by the SBA and the Commission's auction rules.

58. *Open Video Systems (OVS).* The OVS framework provides opportunities for the distribution of video programming other than through cable systems. Because OVS operators provide subscription services, OVS falls within the SBA-recognized definition of Cable and Other Program Distribution Services, which provides that a small entity is one with \$12.5 million or less in annual receipts. The Commission has certified 25 OVS operators with some now providing service. Broadband service providers (BSPs) are currently the only significant holders of OVS certifications or local OVS franchises, even though OVS is one of four

statutorily-recognized options for local exchange carriers (LECs) to offer video programming services. As of June 2003, BSPs served approximately 1.4 million subscribers, representing 1.49 percent of all MVPD households. Among BSPs, however, those operating under the OVS framework are in the minority, with approximately eight percent operating with an OVS certification. Serving approximately 460,000 of these subscribers, Affiliates of Residential Communications Network, Inc. (RCN) is currently the largest BSP and 11th largest MVPD. (WideOpenWest is the second largest BSP and 15th largest MVPD, with cable systems serving about 288,000 subscribers as of September 2003. The third largest BSP is Knology, which currently serves approximately 174,957 subscribers as of June 2004.) RCN received approval to operate OVS systems in New York City, Boston, Washington, DC, and other areas. The Commission does not have financial information regarding the entities authorized to provide OVS, some of which may not yet be operational. We thus believe that at least some of the OVS operators may qualify as small entities.

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

59. The *NPRM* proposes rules that will permit television broadcast licensees to use DTS in lieu of a single-transmitter to operate their television broadcast stations. Use of DTS is at the option of the broadcast licensee. The *NPRM* would not impose any mandatory reporting, recordkeeping and other compliance requirements, unless the licensee chooses to use DTS. The proposed rule changes that we believe will directly affect reporting, recordkeeping and other compliance requirements are described below.

60. The *NPRM* proposes that DTS transmitters will not be separately licensed, but will be part of a linked group that will be covered by one construction permit and license. Unless otherwise indicated, the *NPRM* proposes to apply the current requirements and processes for DTV stations, or, where appropriate, analog TV stations. The Commission intends to use application filing and processing procedures similar to the current procedures for DTV licensing. Under the proposal, licensees will request authority to construct DTS facilities by filing a single application that includes either a main transmitter and one or more additional transmitters that will collectively use the DTS technology, or two or more smaller DTS transmitters. A

licensee may add to its DTS network of transmitters using a minor change application for a construction permit to change a licensed DTV facility, or for a modified construction permit to change a DTV facility authorized by a construction permit. Such applications will be processed in accordance with the Commission's current processing rules and guidelines. However, at least one of a licensee's DTS transmitters must provide coverage of the station's community of license in accordance with § 73.625 of our rules.

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

61. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): (1) The establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.

62. The use of DTS is not mandatory. Only television broadcast licensees who chose to use DTS will be impacted by the proposed rules. Therefore, with respect to the issue of the impact of the proposed rules on smaller entities, we believe small business broadcasters will benefit from the opportunities offered by DTS. The record in the Second DTV Periodic proceeding suggests many potential benefits of DTS to smaller as well as larger entities, such as uniform signal levels throughout a licensee's service area, the ability to operate at reduced power to achieve the same coverage, a reduced likelihood of causing interference to neighboring licensees, an ability to overcome terrain limitations, and more reliable indoor reception. Nevertheless, in the Notice, comment is sought concerning the impact of DTS technology on small business broadcasters.

G. Federal Rules Which Duplicate, Overlap, or Conflict With the Commission's Proposals

63. None.

H. Report to Congress

64. The Commission will send a copy of the *NPRM*, including this IRFA, in a report to be sent to Congress pursuant to the Small Business Regulatory

Enforcement Fairness Act of 1996. In addition, the Commission will send a copy of the *NPRM*, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration. A copy of the Notice and IRFA (or summaries thereof) will also be published in the **Federal Register**.

I. Initial Paperwork Reduction Act of 1995 Analysis

65. This *NPRM* has been analyzed with respect to the Paperwork Reduction Act of 1995 (PRA) and contains modified information collection requirements. These modified requirements of FCC Forms 301 and 302-DTV will be published in a separate **Federal Register** notice.

66. Further Information. For additional information concerning the PRA proposed information collection requirements contained in this *NPRM*, contact Cathy Williams at 202-418-2918, or via the Internet to Cathy.Williams@fcc.gov.

J. Ex Parte Rules

67. *Permit-But-Disclose*. This proceeding will be treated as a "permit-but-disclose" proceeding subject to the "permit-but-disclose" requirements under § 1.1206(b) of the Commission's rules. *Ex parte* presentations are permissible if disclosed in accordance with Commission rules, except during the Sunshine Agenda period when presentations, *ex parte* or otherwise, are generally prohibited. Persons making oral *ex parte* presentations are reminded that a memorandum summarizing a presentation must contain a summary of the substance of the presentation and not merely a listing of the subjects discussed. More than a one- or two-sentence description of the views and arguments presented is generally required. Additional rules pertaining to oral and written presentations are set forth in § 1.1206(b) of the Commission's rules.

K. Filing Requirements

68. *Comments and Replies*. Pursuant to 47 CFR 1.415 and 1.419 of the Commission's rules, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. Comments may be filed using: (1) The Commission's Electronic Comment Filing System (ECFS), (2) the Federal Government's eRulemaking Portal, or (3) by filing paper copies.

69. *Electronic Filers*: Comments may be filed electronically using the Internet by accessing the ECFS: <http://www.fcc.gov/cgb/ecfs/> or the Federal eRulemaking Portal: <http://www.regulations.gov>.

www.regulations.gov. Filers should follow the instructions provided on the website for submitting comments. For ECFS filers, if multiple docket or rulemaking numbers appear in the caption of this proceeding, filers must transmit one electronic copy of the comments for each docket or rulemaking number referenced in the caption. In completing the transmittal screen, filers should include their full name, U.S. Postal Service mailing address, and the applicable docket or rulemaking number. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions, filers should send an e-mail to ecfs@fcc.gov, and include the following words in the body of the message, "get form." A sample form and directions will be sent in response.

70. *Paper Filers*: Parties who choose to file by paper must file an original and four copies of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number. Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail (although we continue to experience delays in receiving U.S. Postal Service mail). All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

- The Commission's contractor will receive hand-delivered or messenger-delivered paper filings for the Commission's Secretary at 236 Massachusetts Avenue, NE., Suite 110, Washington, DC 20002. The filing hours at this location are 8 a.m. to 7 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building.

- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.

- U.S. Postal Service first-class, Express, and Priority mail should be addressed to 445 12th Street, SW., Washington, DC 20554.

71. *Availability of Documents*. Comments, reply comments, and *ex parte* submissions will be available for public inspection during regular business hours in the FCC Reference Center, Federal Communications Commission, 445 12th Street, SW., CY-A257, Washington, DC 20554. These documents will also be available via ECFS. Documents will be available

electronically in ASCII, Word 97, and/or Adobe Acrobat.

72. *Accessibility Information.* To request information in accessible formats (computer diskettes, large print, audio recording, and Braille), send an e-mail to fcc504@fcc.gov or call the FCC's Consumer and Governmental Affairs Bureau at (202) 418-0530 (voice), (202) 418-0432 (TTY). This document can also be downloaded in Word and Portable Document Format (PDF) at: <http://www.fcc.gov>.

73. *Additional Information.* For additional information on this proceeding, contact Evan Baranoff, Evan.Baranoff@fcc.gov, or Eloise Gore, Eloise.Gore@fcc.gov, of the Media Bureau, Policy Division, (202) 418-2120.

V. *Ordering Clauses*

74. Accordingly, *It Is Ordered* that pursuant to sections 4(i) and (j), 7, 301, 302, 303, 307, 308, 309, 316, 319, 324, 336, and 337 of the Communications Act of 1934, 47 U.S.C. 151, 154(i) and (j), 157, 301, 302, 303, 307, 308, 309, 316, 319, 324, 336, and 337 that Notice is hereby given of the proposals and tentative conclusions described in this Notice of Proposed Rulemaking.

75. *It is further ordered* that the Reference Information Center, Consumer Information Bureau, shall send a copy of this Notice of Proposed Rulemaking, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

List of Subjects in 47 CFR Part 73

Digital television, Radio.
Federal Communications Commission.
Marlene H. Dortch,
Secretary.

Proposed Rule Changes

For the reasons discussed in the preamble, the Federal Communications Commission proposes to amend 47 CFR part 73 as follows:

PART 73—RADIO BROADCAST SERVICES

1. The authority citation for part 73 continues to read as follows:
Authority: 47 U.S.C. 154, 303, 334, 336 and 339.
2. Section 73.626 is added to subpart E to read as follows:

§ 73.626 DTV Distributed Transmission Systems.

(a) A DTV station may be authorized to operate multiple transmitters to provide service consistent with the requirements of this section and other rules applicable to DTV stations. A station must comply with the following DTV rules, except when such compliance is inconsistent with an explicit requirement in this section:

- (1) § 73.622 Digital television table of allotments.
- (2) § 73.623 DTV applications and changes to DTV allotments.
- (3) § 73.624 Digital television broadcast stations.
- (4) § 73.625 DTV coverage of principal community and antenna system.
- (5) Paragraph (d) of § 73.682 TV transmission standards.

(b) An application proposing use of a distributed transmission system (DTS) will not be accepted for filing if it proposes coverage by any of the proposed transmitters of areas farther from the station's DTS reference point than the distance in the following table for the station's proposed channel and zone, except where coverage of such areas by the applicant's conventional (non-DTS) DTV facility already is authorized.

Channel	Zone	F(50,90) field strength	Distance
2-6	1	28 dBu	108 km. (67 mi.).
2-6	2 and 3	28 dBu	128 km. (80 mi.).
7-13	1	36 dBu	101 km. (63 mi.).
7-13	2 and 3	36 dBu	123 km. (77 mi.).
14-69	1, 2 and 3	41 dBu	103 km. (64 mi.).

(1) DTV station zones are defined in § 73.609 of this subpart.

(2) The coverage for each DTS transmitter is determined based on the F(50,90) field strength given in the table, calculated in accordance with § 73.625(b) of this subpart.

(3) Each station's DTS reference point is the location of the facility it specified in its certification in the DTV channel election process, pursuant to the procedures established in the *Second DTV Periodic Report and Order*, 69 FR 59500, October 4, 2004. These reference points were published in Public Notice, DA 04-3922. For stations initially authorized subsequent to that certification process, the reference point is the location established in its individual rule making to add the DTV channel allotment, or the location specified in its initial construction permit for a new DTV station, if it was not established in an individual rule

making to add the DTV channel allotment.

(c) An application proposing use of DTS will not be accepted for filing if the combined coverage from all of the transmitters fails to provide predicted service to all population predicted to receive service from the authorized conventional (non-DTS) DTV facility of the station.

(d) An application proposing use of DTS will not be accepted for filing if the coverage from at least one proposed transmitter does not provide principal community coverage as required in § 73.625(a) of this subpart.

(e) An application proposing use of DTS will not be accepted for filing if the proposed transmitters would cause interference to another station in excess of the criteria specified in § 73.623(c), (e), (f) and (g) of this subpart.

* * * * *

3. Section 73.6023 is added to subpart J to read as follows:

§ 73.6023 Distributed transmission systems.

Station licensees may operate a commonly owned group of digital Class A stations with contiguous predicted DTV noise-limited contours (see § 73.622(e) of this part) on a common television channel in a distributed transmission system.

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