

The ILLR model was adopted for STELA purposes based on the Commission's experience with using the Longley-Rice radio propagation prediction model for predicting service and interference for digital television (DTV). The parameters to be used in a computer implementation of the ILLR model for STELA purposes are mostly the same as were used for DTV service and interference analysis purposes, with only a few exceptions, stemming from their somewhat different objectives. Specific parameter values for the ILLR model are given in Table 1 and the text below:

**Table 1.**  
**Parameter Values for ILLR Implementation of the Longley-Rice Fortran Code**

Parameter	Explanation	Value	Units
EPS	Relative Ground Permittivity	15.0	(none)
SGM	Ground Conductivity	0.005	Siemens/meter
ZSYS	(Coordinated with EN0)	0.0	(none)
EN0	Surface refractivity	301.0	N-units
IPOLE	Polarization	0	(horizontal)
MDVAR	Calculation Mode	1	(Individual Mode)
KLIM	Climate Code	5	(Continental Temperate)
XI	Terrain sampling interval	0.1	Kilometers
HG(1)	Transmit antenna height above ground	See note	Meters
HG(2)	Receive antenna height above ground	6 or 9	Meters

Note 1. HG(1) in Table 1 is the height of the radiation center above ground. It is determined by subtracting the ground elevation above mean sea level (AMSL) at the transmitter location from the height of the radiation center AMSL. The latter value is contained in the FCC's CDBS, and may be found by query at <http://www.fcc.gov/mb/video/tvq.html>. The former is retrieved from the terrain elevation data base as a function of the transmitter site coordinates also found in CDBS. Linear interpolation between the surrounding data points in the terrain database is used to determine the ground elevation. Care should be used to ensure that consistent horizontal and vertical datums are employed among all data sets.

Note 2. HG(2) is 6 m or 9 m. Use 6 m for a one-story building, otherwise use 9 m.

Following are the parameters that describe the unique features of the ILLR prediction procedure for STELA purposes (these distinguish the ILLR model from the use of Longley-Rice for digital television coverage and interference calculations as detailed in OET Bulletin No. 69):

- the time variability factor to be used is 90%, based on the fact that the ILLR field strength prediction is to be compared with a required field strength (the noise-limited field intensity defined in Section 73.622(e) of the FCC rules);
- the confidence variability factor to be used is 50%, indicating median situations;<sup>7</sup>
- receiving antenna height is to be assumed to be 6 m (20 feet) above ground for one-story buildings and 9 m (30 feet) above ground for buildings taller than one-story;

<sup>7</sup> When point-to-point mode is used, as in ILLR, there are well-defined paths with fixed terminals, so there is no location variability. There is still a "confidence" or "situational" variability factor, which is taken here to be 50%.

- in those cases that error code 3 occurs ( $KWX = 3$ ), the predicted field strength is nevertheless to be accepted as indicative of whether the noise-limited field strength is available at that location;
- consideration of the land use and land cover (e.g., vegetation and buildings) in the vicinity of the receiving location is to be included through use of a lookup table of clutter losses additional to those inherent in the basic Longley-Rice v1.2.2 model. The lookup table must be constructed from information on the Land Use and Land Cover categories defined by the United States Geological Survey. See Section IV below.

#### D. Acquiring Terrain Elevation Data

Terrain elevation data for the United States is available from the United States Geological Survey (USGS) in the form of elevations relative to mean sea level at grid points separated by 3 arc-seconds (roughly every 100 feet at mid-latitudes of the U.S.). The Web site for obtaining these data directly from the USGS is <http://edc.usgs.gov/geodata/>. The Commission currently uses digital elevation model (DEM) data taken from 1:250,000 scale maps. The data are also available from several commercial sources. Installation of the ILLR program necessarily entails a computer coding task to link the terrain elevation data to the propagation prediction code. Computer program code must be developed to retrieve data representing the elevations of points along the path from the network affiliate's transmitter to the individual reception point of interest. To determine the elevation of a point at particular geographic coordinates along the path, the elevation of points at each corner of the 3-arc-second grid surrounding that point should be retrieved. The elevation of that point is then calculated by 4-point linear interpolation.

#### E. Acquiring TV Engineering Data

Engineering data for DTV stations in the U.S. (including digital Class A, Low Power, and TV Translator stations) is available from the FCC. Data for individual stations can be found at <http://www.fcc.gov/mb/video/tvq.html>, and consolidated data for all authorized stations can be found at <ftp://ftp.fcc.gov/pub/Bureaus/MB/Databases/cdbs/>. Where more than one authorization exists for a particular station, the record associated with the facility actually operating shall be used. Calculation of effective radiated power (ERP) in the direction of the individual location under study is accomplished using the relevant antenna azimuth and elevation patterns (including beam tilt, if any) at the relevant depression angle. Where specific elevation pattern data are not provided in the engineering data, a generic elevation pattern may be used as described generally in OET Bulletin No. 69.

### III. Land Use and Land Cover (LULC) Clutter Losses

#### A. Clutter Losses

The presence of foliage and man-made structures in the radio path tends to reduce the strength of received signals. The Department of Commerce Longley-Rice code was developed from field strength measurements in areas selected for the purpose of investigating effects of terrain elevation profiles, not morphology. Thus, the ILLR computer program defined in this bulletin accounts for additional factors, especially buildings and vegetation, as so-called "clutter losses." The clutter loss, if any, at an individual reception location is determined by reference to the Land Use and Land Cover (LULC) database of the USGS. This database is entered with the geographic coordinates of the reception point to find the point's LULC classification and, subsequently, to determine a clutter loss value from Table 3. Finally, the clutter loss is subtracted from the signal strength predicted by the basic propagation prediction code to determine

whether the location is served or unserved.

#### **B. Source of LULC Classification Data**

The LULC database is available for downloading at the USGS Web site <http://edc.usgs.gov/geodata/>. The FCC presently uses data from at the 1:250,000 scale. In the FCC's implementation of the ILLR program, the LULC classifications are stored in a rasterized fashion like that used for terrain elevations. That is, the classifications are stored as functions of the latitude and longitude coordinates of points of the Universal Transverse Mercator (UTM) system with 200 meters between grid points. The classification of the nearest grid point is then used as the classification of any particular latitude-longitude point.

#### **C. LULC Categories of the ILLR Program**

Since the LULC classifications of the USGS have a broader purpose and are not targeted for application to radio propagation analyses, we have regrouped these classifications into more appropriate categories for use in the ILLR program. Table 2 defines this regrouping. For each computer run of the program, the appropriate ILLR clutter category number should be selected from Table 2 according to environmental conditions in the vicinity of the individual reception point. The clutter loss value, if any, is then determined as a function of the ILLR clutter category number and the channel number of the desired network television affiliate, by referring to Table 3.

**Table 2.  
Regrouping of LULC Categories for ILLR Applications.**

<b>LULC Classification Number</b>	<b>LULC Classification Description</b>	<b>ILLR Clutter Category</b>	<b>ILLR Clutter Category Description</b>
11	Residential	7	Residential
12	Commercial and Services	9	Commercial / Industrial
13	Industrial	9	Commercial / Industrial
14	Transportation, communications & utilities	1	Open land
15	Industrial and commercial complexes	9	Commercial / Industrial
16	Mixed urban and built-up lands	8	Mixed urban / buildings
17	Other urban and built-up land	8	Mixed urban / buildings
21	Cropland and pasture	2	Agricultural
22	Orchards, groves, vineyards, nurseries, and horticultural	2	Agricultural
23	Confined feeding operations	2	Agricultural
24	Other agricultural land	2	Agricultural
31	Herbaceous rangeland	3	Rangeland
32	Shrub and brush rangeland	3	Rangeland
33	Mixed rangeland	3	Rangeland
41	Deciduous forest land	5	Forest land
42	Evergreen forest land	5	Forest land
43	Mixed forest land	5	Forest land
51	Streams and canals	4	Water
52	Lakes	4	Water
53	Reservoirs	4	Water
54	Bays and estuaries	4	Water
61	Forested wetland	5	Forest land
62	Non-forest wetland	6	Wetland
71	Dry salt flats	1	Open land
72	Beaches	1	Open land
73	Sandy areas other than beaches	1	Open land
74	Bare exposed rock	1	Open land
75	Strip mines, quarries, and gravel pits	1	Open land
76	Transitional areas	1	Open land
77	Mixed Barren land	1	Open land
81	Shrub and brush tundra	1	Open land
82	Herbaceous tundra	1	Open land
83	Bare ground	1	Open land
84	Wet tundra	1	Open land
85	Mixed tundra	1	Open land
91	Perennial snowfields	10	Snow and Ice
92	Glaciers	10	Snow and Ice

This regrouping into 10 categories for use with the ILLR model was designed by EDX Engineering, Inc., now EDX Wireless, LLC, Eugene, Oregon.

**Table 3.**  
**Clutter Loss as a Function of ILLR LULC Clutter Category and TV Channel**

		Clutter Loss, decibels (to be subtracted from calculated field strength)			
ILLR Clutter Category	ILLR Clutter Category Description	Channels 2-6	Channels 7-13	Channels 14-36	Channels 38-69
1	Open land	0	0	4	5
2	Agricultural	0	0	5	6
3	Rangeland	0	0	3	6
4	Water	0	0	0	0
5	Forest land	0	0	5	8
6	Wetland	0	0	0	0
7	Residential	0	0	5	7
8	Mixed Urban / Buildings	0	0	6	6
9	Commercial / Industrial	0	0	5	6
10	Snow and Ice	0	0	0	0

#### IV. Field Strength Calculation

The field strength of a network TV station at an individual location is predicted as follows:

- 1) Find the engineering facilities data for the network affiliate station of interest by, for example, consulting the TV Query FCC Web site at <http://www.fcc.gov/mb/video/tvq.html>. Necessary technical data include the station latitude and longitude, height above mean sea level of the antenna radiation center, and the effective radiated power (ERP) in the direction of the individual location under study.
- 2) Run Longley-Rice v1.2.2 in point-to-point mode with the parameters specified in Section II.C. above (Table 1 and the following text) to find the propagation path loss relative to free space propagation.
- 3) Find the USGS Land Use and Land Cover classification of the individual receiving location under study by consulting the LULC database, available from the USGS.
- 4) Convert the USGS Land Use and Land Cover classification to the corresponding ILLR clutter category using Table 2, and find the associated clutter loss from Table 3.
- 5) Calculate the ILLR field strength prediction from the formula

$$\text{Field} = (\text{Free Space Field}) - (\text{Longley-Rice 1.2.2 Path Loss}) - (\text{ILLR Clutter Loss})$$

where the Free Space Field in dB =  $106.92 + 10\log_{10}(\text{ERP in kW}) - 20\log_{10}(\text{distance in km})$ .

The field strength calculated in the last step determines whether the individual location is presumed to be served or unserved. The signal strength values for noise-limited service are 28 dB $\mu$ V/m for TV channels 2-6; 36 dB $\mu$ V/m for channels 7-13; and 41 dB $\mu$ V/m (adjusted by a dipole factor equal to  $20 \log [615/(\text{channel mid-frequency in MHz})]$  for channels 14 and above.

## APPENDIX C

## Further Initial Regulatory Flexibility Analysis

As required by the Regulatory Flexibility Act of 1980, as amended (RFA),<sup>1</sup> the Commission has prepared this present Further Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities by the policies and rules proposed in the Further Notice of Proposed Rulemaking. (FNPRM). Written public comments are requested on this Further IRFA. Comments must be identified as responses to the Further IRFA and must be filed by the deadlines specified on the first page of this NPRM and FNPRM. The Commission will send a copy of this NPRM and FNPRM, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).<sup>2</sup> In addition, the NPRM and IRFA (or summaries thereof) will be published in the Federal Register.<sup>3</sup>

**A. Need for and Objectives of the Proposed Rules.** In the NPRM portion of this action, we seek comment on proposals for establishing a predictive model for determining the signal strength of digital television signals, including low power TV stations (Class A, LPTV and TV translator stations), at individual locations and for using that model to determine eligibility for delivery of distant network-affiliated television broadcast signals by direct broadcast satellite services. In addition, we seek comment on our proposal to continue to use the current standard for an outdoor antenna as specified in the DTV planning factors in predicting digital television signal strengths at individual. In the FNPRM discussion, we seek comment on two additional proposals relating to our proposed procedure for measurement of the strength of digital television signals at individual locations in ET Docket No 06-94. First, consistent with the new STELA provisions for eligibility, we propose to specify that a testing entity is to consider and test only the signals of those network affiliated stations that are located in the same DMA as the satellite subscriber. Second, we propose to specify the use of an outdoor antenna in measuring digital television signal strengths and, consistent with the change in the STELA to specifying an “antenna” rather than an “outdoor antenna,” we also will consider comments and suggestions for solutions for situations where consumers are not able to use an outdoor antenna to receive local television signals. We indicate that such solutions could include options for measurement of signals indoors. This NPRM and FNPRM begins the process of implementing requirements of the Satellite Television Extension and Localism Act of 2010 (STELA).<sup>4</sup>

**B. Legal Basis:** The legal basis for the rule changes proposed in the NPRM and FNPRM is contained in Sections 1, 4(i) and (j), and 339 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i) and (j), and 339 (including amendments enacted in the Satellite Television Extension and Localism Act of 2010).

**C. Description and Estimates of the Number of Small Entities to Which the Rules Adopted in this Notice may apply.** The RFA directs agencies to provide a description of and, where feasible, an

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<sup>1</sup> See 5 U.S.C. § 603. The RFA, see 5 U.S.C. § 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996, (SBREFA) Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

<sup>2</sup> See 5 U.S.C. § 603(a).

<sup>3</sup> See 5 U.S.C. § 603(a).

<sup>4</sup> See Satellite Television Extension and Localism Act of 2010, Title V of the “American Workers, State, and Business Relief Act of 2010,” Pub. L. 111-175, 124 Stat. 1218 (2010) relating to copyright licensing and carriage of broadcast signals by satellite carriers, codified in scattered sections of 17 and 47 U.S.C.

estimate of the number of small entities that will be affected by the proposed rules.<sup>5</sup> The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”<sup>6</sup> In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.<sup>7</sup> 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 Small Business Administration (SBA).<sup>8</sup>

The proposed rules contained in this *Further NPRM* seek comment on and modify previous proposals to measure the strength of digital television signals at any particular location, as a means of determining whether any particular household is “unserved” by a local DTV network station and is therefore eligible to receive a distant DTV network signal retransmitted by a Direct Broadcast Satellite (DBS) service provider. Therefore, DBS providers will be directly and primarily affected by the proposed rules, if adopted. In addition, the proposed rules, if adopted, will also directly affect those local digital television stations that broadcast network programming. Therefore, in this *Further IRFA*, we consider, and invite comment on, the impact of the proposed rules on small digital television broadcast stations, small DBS providers, and other small entities. A description of such small entities, as well as an estimate of the number of such small entities, is provided below.

Nationwide, there are a total of approximately 29.6 million small businesses, according to the SBA.<sup>9</sup> A “small organization” is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.”<sup>10</sup> Nationwide, as of 2002, there were approximately 1.6 million small organizations.<sup>11</sup> The term “small governmental jurisdiction” is defined generally as “governments of cities, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand.”<sup>12</sup> Census Bureau data for 2002 indicate that there were 87,525 local governmental jurisdictions in the United States.<sup>13</sup> We estimate that, of this total, 84,377 entities were “small governmental jurisdictions.”<sup>14</sup> Thus, we estimate that most governmental jurisdictions are small.

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<sup>5</sup> 5 U.S.C. §§ 603(b) (3), 604(a) (3).

<sup>6</sup> *Id.*, § 601(6).

<sup>7</sup> 5 U.S.C. § 601(3) (incorporating by reference the definition of “small business concern” in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies “unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such terms which are appropriate to the activities of the agency and publishes such definitions(s) in the Federal Register.”

<sup>8</sup> 15 U.S.C. § 632.

<sup>9</sup> See SBA, Office of Advocacy, “Frequently Asked Questions,” <http://web.sba.gov/faqs/faqindex.cfm?areaID=24> (revised Sept. 2009).

<sup>10</sup> 5 U.S.C. § 601(4).

<sup>11</sup> Independent Sector, *The New Nonprofit Almanac & Desk Reference* (2002).

<sup>12</sup> 5 U.S.C. § 601(5).

<sup>13</sup> U.S. Census Bureau, *Statistical Abstract of the United States: 2006*, Section 8, page 272, Table 415.

<sup>14</sup> We assume that the villages, school districts, and special districts are small, and total 48,558. See U.S. Census Bureau, *Statistical Abstract of the United States: 2006*, section 8, page 273, Table 417. For 2002, (continued....)

**Cable Television Distribution Services.** The “Cable and Other Program Distribution” census category includes cable systems operators, closed circuit television services, direct broadcast satellite services, multipoint distribution systems, satellite master antenna systems, and subscription television services. Since 2007, these services have been defined within the broad economic census category of Wired Telecommunications Carriers; that category is defined as follows: “This industry comprises establishments primarily engaged in operating and/or providing access to transmission facilities and infrastructure that they own and/or lease for the transmission of voice, data, text, sound, and video using wired telecommunications networks. Transmission facilities may be based on a single technology or a combination of technologies. Establishments in this industry use the wired telecommunications network facilities that they operate to provide a variety of services, such as wired telephony services, including VoIP services; wired (cable) audio and video programming distribution; and wired broadband Internet services. By exception, establishments providing satellite television distribution services using facilities and infrastructure that they operate are included in this industry.” The SBA has developed a small business size standard for this category, which is: All such firms having 1,500 or fewer employees. To gauge small business prevalence for these cable services the Commission must, however, use current census data that are based on the previous category of Cable and Other Program Distribution and its associated size standard; that size standard was: All such firms having \$13.5 million or less in annual receipts. According to Census Bureau data for 2002, there were a total of 1,191 firms in this previous category that operated for the entire year. Of this total, 1,087 firms had annual receipts of under \$10 million, and 43 firms had receipts of \$10 million or more but less than \$25 million. Thus, the majority of these firms can be considered small.

**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 Wired Telecommunications Carriers. However, as discussed above, the Commission relies on the previous size standard, Cable and Other Subscription Programming, which provides that a small entity is one with \$13.5 million or less in annual receipts. Currently, only two operators—DirecTV and EchoStar Communications Corporation (EchoStar)—hold licenses to provide DBS service, which requires a great investment of capital for operation. Both currently offer subscription services and report annual revenues that are in excess of the threshold for a small business. Because DBS service requires significant capital, the Commission believes 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, the Commission acknowledges the possibility that there are entrants in this field that may not yet have generated \$13.5 million in annual receipts, and therefore may be categorized as a small business, if independently owned and operated.

**Television Broadcasting.** The proposed rules and policies 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 \$14 million in annual receipts.<sup>15</sup> Business concerns included in this industry are those “primarily engaged in broadcasting images together with sound.”<sup>16</sup> The

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Census Bureau data indicate that the total number of county, municipal, and township governments nationwide was 38,967, of which 35,819 were small. *Id.*

<sup>15</sup> See 13 C.F.R. § 121.201, NAICS Code 515120.

<sup>16</sup> *Id.* 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 (continued....)”

Commission has estimated the number of licensed commercial television stations to be 1,392.<sup>17</sup> According to Commission staff review of the BIA/Kelsey, MAPro Television Database (“BIA”) as of April 7, 2010, about 1,015 of an estimated 1,380 commercial television stations<sup>18</sup> (or about 74 percent) have revenues of \$14 million or less and thus qualify as small entities under the SBA definition. The Commission has estimated the number of licensed non-commercial educational (NCE) television stations to be 390.<sup>19</sup> We note, however, that, in assessing whether a business concern qualifies as small under the above definition, business (control) affiliations<sup>20</sup> 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. The Commission does not compile and otherwise does not have access to information on the revenue of NCE stations that would permit it to determine how many such stations would qualify as small entities.

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 estimates 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.

***Class A TV, LPTV, and TV translator stations.*** The rules and policies proposed in this Notice include licensees of Class A TV stations, low power television (LPTV) stations, and TV translator stations, as well as 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 \$14 million in annual receipts.<sup>21</sup> Currently, there are approximately 537 licensed Class A stations, 2,386 licensed LPTV stations, and 4,359 licensed TV translators.<sup>22</sup> 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

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from external sources.” Separate census categories pertain to businesses primarily engaged in producing programming. See Motion Picture and Video Production, NAICS code 512110; Motion Picture and Video Distribution, NAICS Code 512120; Teleproduction and Other Post-Production Services, NAICS Code 512191; and Other Motion Picture and Video Industries, NAICS Code 512199.

<sup>17</sup> See News Release, “Broadcast Station Totals as of December 31, 2009,” 2010 WL 676084 (F.C.C.) (dated Feb. 26, 2010) (“*Broadcast Station Totals*”); also available at <http://www.fcc.gov/mb/>.

<sup>18</sup> We recognize that this total differs slightly from that contained in *Broadcast Station Totals*, *supra* note 446; however, we are using BIA’s estimate for purposes of this revenue comparison.

<sup>19</sup> See *Broadcast Station Totals*, *supra* note 239.

<sup>20</sup> “[Business concerns] are affiliates of each other when one concern controls or has the power to control the other or a third party or parties controls or has the power to control both.” 13 C.F.R. § 121.103(a)(1).

<sup>21</sup> See 13 C.F.R. § 121.201, NAICS Code 515120.

<sup>22</sup> See *Broadcast Station Totals*, *supra* note 239.

these entities are also likely to have revenues of less than \$14 million and thus may be categorized as small, except to the extent that revenues of affiliated non-translator or booster entities should be considered.

***D. Description of Projected Reporting, Recordkeeping and Other Compliance Requirement for Small Entities.*** The rules proposed in this Further Notice would modify previously proposed rules for measuring digital television signal strength at any specific location. These measurement procedures would be used as a means of determining whether households are eligible to receive distant DTV network signals retransmitted by DBS providers. Section 339(a)(2)(D)(vi) of the Communications Act (47 U.S.C. § 339(a)(2)(D)(vi)) delineates when measurements are necessary and when the satellite communications provider, the digital television broadcast station, or the consumer is responsible for bearing their cost. No reporting requirement is proposed. In this Further IFRA, we seek comment on the types of burdens direct broadcast satellite service providers and digital television broadcast stations will face in complying with the proposed requirements. Entities, especially small businesses and, more generally, small entities are encouraged to quantify the costs and benefits of the proposed reporting requirements.

***E. Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered.*** 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.<sup>23</sup>

The Further Notice examines only two issues related to our previous proposals regarding DTV signal measurement procedures. As noted in the text, the proposal related to which stations need to be tested would reduce burdens both on businesses that conduct tests and on consumers. This is because the STELA limits the broad universe of stations that need to be tested to only a handful that are located in the same market at the satellite subscriber. This could reduce the amount and complexity of the equipment necessary to conduct a test as well as reduce the complexity of actually conducting the test as fewer stations need to be measured. This should have an accompanying cost savings to consumers as the tests should be less complex. We seek comment on this tentative conclusion especially from small entities.

***F. Federal Rules that Might Duplicate, Overlap, or Conflict with the Proposed Rules.*** None.

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<sup>23</sup> 5 U.S.C. § 603(c).