

LATHAM & WATKINS

ATTORNEYS AT LAW

1001 PENNSYLVANIA AVE., N.W.

SUITE 1300

WASHINGTON, D.C. 20004-2505

TELEPHONE (202) 637-2200

FAX (202) 637-2201

PAUL R. WATKINS (1899 - 1973)
DANA LATHAM (1898 - 1974)

CHICAGO OFFICE

SEARS TOWER, SUITE 5800
CHICAGO, ILLINOIS 60608
PHONE (312) 876-7700, FAX 993-9767

HONG KONG OFFICE

SUITE 2205A, 22ND FLOOR
NO. 9 QUEEN'S ROAD CENTRAL
HONG KONG
PHONE + 852-2522-7886, FAX 2522-7006

LONDON OFFICE

ONE ANGEL COURT
LONDON EC2R 7HJ ENGLAND
PHONE + 44-171-374 4444, FAX 374 4460

LOS ANGELES OFFICE

633 WEST FIFTH STREET, SUITE 4000
LOS ANGELES, CALIFORNIA 90071-2007
PHONE (213) 485-1234, FAX 691-8763

MOSCOW OFFICE

ULITS A GASHEKA, 7, 9TH FLOOR
MOSCOW 123056, RUSSIA
PHONE + 7-095 785-1234, FAX 785-1235

NEW JERSEY OFFICE

ONE NEWARK CENTER, 16TH FLOOR
NEWARK, NEW JERSEY 07101-3174
PHONE (973) 639-1234, FAX 639-7298

NEW YORK OFFICE
300 NASSAU AVENUE, SUITE 1000
NEW YORK, NY 10021
PHONE (212) 906-1200, FAX 751-4864

ORANGE COUNTY OFFICE

650 TOWN CENTER DRIVE, SUITE 2000
COSTA MESA, CALIFORNIA 92626-1925
PHONE (714) 540-1235, FAX 755-8290

SAN DIEGO OFFICE

701 "B" STREET, SUITE 2100
SAN DIEGO, CALIFORNIA 92101-8197
PHONE (619) 236-1234, FAX 696-7419

SAN FRANCISCO OFFICE

505 MONTGOMERY STREET, SUITE 1900
SAN FRANCISCO, CALIFORNIA 94111-2562
PHONE (415) 391-0600, FAX 395-8095

SILICON VALLEY OFFICE

135 COMMONWEALTH DRIVE
MENLO PARK, CALIFORNIA 94025
PHONE (650) 326-4600, FAX 463-2600

SINGAPORE OFFICE

20 CECIL STREET, SUITE 25-02
THE EXCHANGE, SINGAPORE 049705
PHONE + 65-536-1161, FAX 536-1171

TOKYO OFFICE

INFINI AKASAKA, 8-7-15, AKASAKA, MINATO-KU
TOKYO 107-0052, JAPAN
PHONE +813-3423-3970, FAX 3423-3971

March 15, 1999

RECEIVED

MAR 15 1999

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Ms. Magalie Roman Salas, Secretary
Federal Communications Commission
445 12th Street, S.W., TW-A325
Washington, DC 20554

Re: Petition for Reconsideration, CS Docket No. 98-201

Dear Ms. Salas:

Please find enclosed an original and eleven copies of DIRECTV's petition for reconsideration of the Commission's order in CS Docket No. 98-201. Please contact the undersigned at (202) 637-2198 with any questions regarding this filing.

Yours truly,



Kimberly S. Reindl

Enclosures

No. of Copies rec'd 11
List A B C D E

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

RECEIVED
MAR 15 1999
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)	
)	
Satellite Delivery of Network Signals to Unserved Households for Purposes of the Satellite Home Viewer Act)	CS Docket No. 98-201
)	
Part 73 Definition and Measurement of Signals of Grade B Intensity)	RM No. 9335, 9345
)	

PETITION FOR RECONSIDERATION

Pursuant to Section 1.429 of the Commission's rules, DIRECTV, Inc. ("DIRECTV")¹ hereby petitions for reconsideration of the Report and Order adopted by the Commission in the above-captioned docket (the "Order").² DIRECTV participated actively in all phases of this proceeding and is therefore an interested party within the meaning of Section 1.429(a).

I. INTRODUCTION

The Commission is well aware of the current controversy that has surrounded how satellite providers such as DIRECTV are to determine whether subscribers are "unserved

¹ DIRECTV is a wholly-owned subsidiary of DIRECTV Enterprises, Inc., a DBS licensee, which is a wholly-owned subsidiary of Hughes Electronics Corporation.

² *In the Matter of Satellite Delivery of Network Signals to Unserved Households for Purposes of the Satellite Home Viewer Act, Part 73 Definition and Measurement of Signals of Grade B Intensity*, CS Docket No. 98-201, RM No. 9335, RM No. 9345, Report and Order (rel. Feb. 2, 1999).

households” under the Satellite Home Viewer Act.³ In order to aid satellite providers, broadcasters and satellite television subscribers in making such determinations, the Commission recommended the use of an adjusted propagation model for predicting signal strength at individual households, known as the Individual Location Longley-Rice (“ILLR”) model.

The Commission’s new ILLR methodology consists of a number of components and refinements to existing predictive signal propagation models that are intended to help predict, with as much accuracy as possible, whether signals of Grade B intensity can be received at discrete locations. One component that the Commission has acknowledged should be included in the ILLR model is the use of land use and land cover (“LULC”) data to reflect the presence of signal propagation impediments such as vegetation and buildings. The Commission acknowledged that LULC “affect signal intensity at individual locations and should be used in the ILLR,” but stated that it is “not aware of a standard means of including such information in the ILLR that has been accepted by the technical and scientific community.”⁴ Thus, the Commission stated that LULC data “*shall be included*” in the ILLR model “when an accurate method for doing so is developed.”⁵

DIRECTV urges the Commission to reconsider this position. The Order itself acknowledges that “credible and useful” LULC data is available in the Global Land Information System (“GLIS”) database maintained by the United States Geological Survey (“USGS”).⁶ The Commission’s failure to permit satellite providers to incorporate the use of GLIS LULC data

³ See 47 U.S.C. § 119(d)(10).

⁴ Order at ¶ 83.

⁵ Id. at ¶ 71.

⁶ Id.

today, without any further proceeding, into the ILLR model severely diminishes the model's utility.

The record in this proceeding and the Commission's own findings in the Order make clear that LULC data are vital to an accurate determination of signal intensity at individual households. The record makes equally clear that the USGS GLIS database is a well-recognized, scientifically accepted source of such data -- a conclusion that is confirmed in the attached declaration of Robert H. Plummer.⁷ Furthermore, there exist today a variety of scientifically accepted means of converting the USGS GLIS data into a form that is compatible with commercially-available mapping software. Indeed, this process is currently being pursued by DIRECTV. Such software will be able to pinpoint quickly and efficiently those households that are not able to receive signal of Grade B intensity.

There is no reason for the Commission to impede the use of LULC data as a component in the ILLR methodology. Given the importance of the "unserved household" determination to the satellite and broadcast industries, to American consumers, and to multichannel video programming distributor ("MVPD") competition, the Commission should make every effort to facilitate accurate predictive determinations of signal strength at individual homes.

⁷ Declaration of Robert H. Plummer, Director of Advanced Technology, DIRECTV, Inc.

II. THE COMMISSION SHOULD NO LONGER DELAY THE INCORPORATION OF LULC DATA INTO THE ILLR MODEL

By recognizing the importance of LULC as a component of its ILLR model, the Commission recognized that terrain, vegetation, and land use critically affect signal propagation, and, in turn, can prevent an individual household from receiving a signal of Grade B intensity. Convinced that the USGS GLIS database provided adequate information for determining land use and land cover, the Commission found the database to be “credible and useful,”⁸ but failed to integrate it into the ILLR model because of a concern about the availability of a specific application for doing so. This failure has the potential to erode the effectiveness of the ILLR model altogether.

As the Declaration of Robert H. Plummer demonstrates, LULC data can be incorporated into the FCC’s ILLR model using scientifically and technically acceptable means. Mr. Plummer points out that the USGS databases are consistently relied upon by the scientific and technical community for a variety of applications, including measurement of population density and navigation.⁹ He also states that DIRECTV’s research thus far indicates that LULC data can be combined with commercially available mapping software.¹⁰ Thus, it makes no sense for the Commission to adopt what has been interpreted as a per se bar on the use of LULC data. Moreover, if the Commission were to confirm that LULC data should be used as part of the ILLR model, it may well have the added benefit of causing Judge Nesbitt to refine her analysis in

⁸ *Order* at ¶ 83.

⁹ Declaration of Robert H. Plummer at ¶ 5.

¹⁰ *Id.* at ¶ 6.

the DIRECTV court proceeding. To date Judge Nesbitt's opinions have not authorized the use of LULC data.¹¹

DIRECTV thus urges the Commission (i) to explicitly and unqualifiedly make the use of LULC data a component of the ILLR, and (ii) to specifically allow DBS providers to integrate data from the USGS GLIS database into the model to satisfy the LULC component. The USGS GLIS database is available to the public and is widely-used by the scientific and engineering community.¹² A number of companies are developing an application to integrate USGS data with the ILLR model, as the need for such an application is great and the cost of production is relatively small.

The record suggests, and the declaration of Robert H. Plummer confirms, that applications with the ability to combine commercially-available mapping software with USGS LULC data are easily developed and are already in process. Thus, the Commission should not have stopped just short of incorporating such data into its ILLR methodology.

III. CONCLUSION

The Commission should explicitly allow for the incorporation of LULC data into its ILLR model without requiring DIRECTV and other satellite providers to wait for further regulatory action. The USGS GLIS database is a credible and well-recognized source in the technical community for obtaining such information, and the integration of that database with the ILLR model should be permitted to proceed. DIRECTV therefore urges the Commission to

¹¹ See *CBS Broadcasting, Inc. v. DirecTV, Inc.*, Case No. 96-0565-CIV-Nesbitt (S.D. Fla. 1999).

¹² *Id.* at ¶ 5.

respond to the needs of broadcasters and satellite service providers alike and reconsider its Order so that acceptable USGS data can be immediately utilized in determining whether individual households can receive a signal of Grade B intensity.

Respectfully submitted,

DIRECTV, Inc.

By:



Gary M. Epstein

James H. Barker

Kimberly S. Reindl

LATHAM & WATKINS

1001 Pennsylvania Avenue, N.W.

Suite 1300

Washington, D.C. 20004-2505

(202) 637-2200

March 15, 1999

DC_DOCS\198069.2

DECLARATION OF ROBERT H. PLUMMER

1. My name is Robert H. Plummer. My present position is Director, Advanced Technology for DIRECTV, Inc., a wholly-owned subsidiary of DIRECTV Enterprises, Inc., which is a licensee in the Direct Broadcast Satellite (DBS) service. I have over thirty-five years of experience in the broadcast industry. For over twenty years, I was employed by Fisher Broadcasting in various engineering positions, including: Station Engineer, Chief Engineer, and Director of Engineering. For ten years, I served as Director of the Television Research Laboratory at the David Sarnoff Research Center, during which time I delivered from Sarnoff two (ACTV and AD-HDTV) of the systems tested by the ATTC and the proof of concept video encoders and packet data format for DIRECTV. During this time, I have made or supervised many terrestrial broadcast RF measurements for submission to the Federal Communications Commission (FCC) for due diligence in station purchasing and for propagation research. In the past four years, I have been employed with DIRECTV in various engineering positions, including Director of Broadcast Systems, and my current position of Director of Advanced Technology.
2. I have been heavily involved in DIRECTV's efforts to determine whether individual DIRECTV subscribers are "unserved households" under the Satellite Home Viewer Act (SHVA) -- that is, whether such subscribers can receive an over-the-air broadcast signal of Grade B intensity. If such subscribers cannot receive such a signal, and have not subscribed to a cable system within 90 days, they are considered "unserved," and are permitted to receive satellite-delivered network signals. DIRECTV currently verifies subscribers as "unserved households" by computing in real time, using a customer service computer system, the signal level available at the customer's home, applying a point-to-point version of the Longley-Rice 1.2.2 predictive model.
3. I have reviewed the FCC's Report and Order in CS Docket No. 98-201, released February 2, 1999 (Order), and the Commission's discussion of its new recommended Individual Location Longley-Rice (ILLR) point-to-point predictive model, which the agency believes is appropriate for purposes of establishing whether individual households are classified as "unserved" under the SHVA. I believe that the FCC's new ILLR model can lead to improved accuracy in predicting whether individual DIRECTV subscribers are receiving signals of Grade B intensity. However, to date, the model, as it has been interpreted, is missing a key component that severely undercuts its utility.
4. Specifically, DIRECTV and the Satellite Broadcasting and Communications Association (SBCA) advocated in this proceeding the inclusion of land use and land cover (LULC) data as a basic component of any predictive propagation methodology intended to accurately predict Grade B signal intensity at individual locations. There is no question that vegetation and buildings, for example, can affect signal intensity at individual locations. The Commission has recognized this fact, and has recommended that LULC be incorporated as a

central component of the ILLR model. The Commission, however, stated that it is "not aware of a standard means of including such information in the ILLR that has been accepted by the technical and scientific community." (Order, para. 83.)

5. In my view, the incorporation of LULC data is critical to the ILLR's ability to predict signal intensity at individual locations, and standard, technically accepted means exist today to facilitate the incorporation of LULC data into the model. The FCC itself has acknowledged that the U.S. Geological Survey (USGS) maintains databases such as the Global Land Information System (GLIS) database on LULC, which features credible, verifiable information on vegetation, water, natural surface and cultural features on the land surface. Through its National Mapping Program, the USGS makes maps and data sets available to the public at no charge. It is available in two forms - as vector data describing the boundaries of land use region types, and as composite theme grid files, in which one of thirty-seven land use types have been assigned to 200 meter square grid cells covering the entire country. The composite theme grid files are in the form generally used with propagation models. The USGS databases are consistently relied upon by the scientific and technical community for a variety of applications, including measurement of population density and navigation. As an example, cruise missile targeting involves a comparison of data available through the Global Positioning System (GPS) and USGS LULC data. This application is somewhat analogous to the measurement of signal intensity in terms of its incorporation of LULC data. For both applications, geocoding data are needed to determine what vegetation or clutter may obstruct transmissions from one geographic location to another.
6. There is no question that LULC data exist in the USGS databases that are accepted and used by the scientific and technical communities. There is also no question that the data can be incorporated into the ILLR model using standard software integration techniques. The LULC data can be combined with commercially available mapping software. DIRECTV's use of the USGS 3 Second Topographical Geocoding data provides a basis for integrating USGS data with FCC predictive models. Each of the USGS databases, including the LULC databases, as well as the databases DIRECTV currently uses in its verification procedures, consists of topographical features derived from digitized NASA aerial photographs that are contained in a location database. Much like DIRECTV's current use of the USGS 3 Second Topographical Geocoding data, the LULC data can be drawn upon to improve the accuracy of the ILLR predictive model.
7. I believe strongly that the FCC should reconsider its position, and should find specifically that LULC data can and should be incorporated immediately into the ILLR model. There is no reason to delay the integration of LULC data into the ILLR model because credible LULC data exist today in USGS databases, in a format that is or that can be readily adapted for ILLR use. The efforts that are underway to combine this data with commercially-available mapping software should not impede the Commission's full endorsement of LULC data as an ILLR component. Moreover, given the contentiousness and urgency that has surrounded, and continues to surround, the problem of determining whether direct-to-home service

subscribers are eligible to receive distant network signals, it is paramount that the LLR be the most accurate predictive tool possible.

I hereby certify that the foregoing is true and accurate to the best of my knowledge and belief.

By:



Robert H. Plummer
Director, Advanced Technology
DIRECTV, Inc.

March 15, 1999