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October 21, 2004

Via Hand Delivery

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
The Portals
445 12th Street, S.W.
Washington, D.C. 20554

Re: WIRELESS TELECOMMUNICATIONS BUREAU,
BROADBAND DIVISION

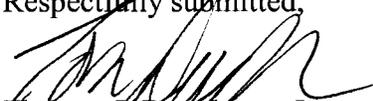
Petition for Reconsideration of Dismissal of
Application for Modification of ITFS Station
KT85 (BMPLIF-19950915HW); WT Dkt. 03-66

Dear Ms. Dortch:

Transmitted herewith, on behalf of The School Board of Miami-Dade, Florida, is an original and eleven copies of its reply to the oppositions to its petition for reconsideration of the dismissal of its above-referenced application. This application was dismissed pursuant to paragraph 263 of the *Report and Order and Further Notice of Proposed Rulemaking*, released on July 29, 2004, *In the Matter of Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands*, WT Docket No. 03-66. As this involves a decision in that rule making proceeding, we are also filing this reply electronically.

Please contact the undersigned if you having any questions concerning this petition.

Respectfully submitted,



Thomas J. Dougherty, Jr.

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

In the Matter of Application of)	
)	
THE SCHOOL BOARD OF MIAMI- DADE COUNTY, FLORIDA	)	File No. BMPLIF-19950915HW
)	
For Authorization to Modify Facilities of ITFS Station KTB-85, Miami, Florida)	

Directed To: The Commission

**REPLY TO OPPOSITIONS TO
PETITION FOR RECONSIDERATION**

THE SCHOOL BOARD OF MIAMI-DADE COUNTY, FLORIDA (“Dade”), pursuant to Rules 1.106 and 1.429, hereby submits this reply to the two oppositions (the “Oppositions”), one filed jointly by Palm Beach County School Board and WBSWP Licensing Corporation (“PBCSB/WBS”) and the other filed by Broward County School Board (“Broward”), to Dade’s August 30, 2004 Petition for Reconsideration of the *Rebanding Report and Order*.¹ In support of this request, the following is respectfully submitted:

I. DISCUSSION

This reply addresses matters in the Oppositions that have not been previously addressed. The Oppositions also dredge up arguments made in pleading cycles long since completed. Dade’s responses to those arguments are contained in its pending pleadings, as identified in the footnote at the end of this paragraph.²

¹ Dade filed a consent motion for extension of the due date of this reply to October 21, 2004. As recited in that motion, all opposing parties consented to that request.

² PBCSB/WBS’ claim that the Palm Beach application had obtained cut-off status before the Dade application was filed is refuted on pages 3-6 of Dade’s Consolidated Opposition to Petitions to Dismiss or Deny filed in the above-captioned matter on February 21, 1997 (“Dade’s Consolidated Opposition”). PBCSB/WBS’ claim that the above-captioned application sought to

A. Dade's Application Is Not Mutually-Exclusive with PBCSB's Application.

The Broward Opposition does not address Dade's explanation for why Dade's application should not have been dismissed. The Broward Opposition simply states that the Dade and PBCSB applications *were* mutually exclusive so that requires the dismissal of the Dade under the *Rebanding Report and Order*. Whether they *were* mutually-exclusive or not is not relevant. Application mutual-exclusivity only exists when the grant of one application is the de facto denial of another. *Aeronautical Radio, Inc. v. FCC*, 68 R.R.2d 1387, 1395 (D.C. Cir. 1991). Whether that is the result in any particular case requires a comparison of the authorizations each applicant would obtain. With the change in the rules, pending applications will be granted GSAs, not the PSAs they requested. If the GSAs that would be granted to each applicant would overlap, then the applications would be mutually-exclusive because the grant of one application would be the de facto denial of the other. If the GSAs would not overlap, the applications would not be mutually-exclusive. The Miami and Palm Beach applications cannot be mutually-exclusive because Broward's existing G-Group station takes for its GSA that portion of each applicant's GSA that would overlap if Broward's G-Group station did not exist.

Moreover, if the PBCSB application were dismissed as ineligible, then it and the Dade application could not be considered mutually-exclusive.³

PBCSB/WBS argue that the relevant date for determining mutual-exclusivity is the release date of the *Rebanding Report and Order* and, because the dismissal of the PBCSB application had not occurred on that date, the Dade and PBCSB applications remain mutually-

modify an expired authorization is refuted on pages 9 and 10 of Dade's Consolidated Opposition. A copy of Dade's Consolidated Opposition is attached as **Exhibit D** for the Commission's convenience of reference.

³ *Aeronautical Radio, supra*, at 1395 (an application subject to dismissal is not mutually-exclusive with other applications).

exclusive.⁴ Of course, the premise of this argument is that they are in fact mutually-exclusive which, as explained above, they are not. But even if they were, the date a defective application is dismissed is a technicality having no bearing on whether it is eligible for comparative consideration with another application.

In either case, the Commission cannot reconcile its decision to grant other non-mutually-exclusive applications with a decision to dismiss Dade's application. What both Broward and PBCSB/WBS do not say is that the issue of application mutual-exclusivity is relevant only insofar as it separates those applications that must be decided through a comparative proceeding from those that can be processed outside of a comparative proceeding. "*Were*" mutually exclusive and "*were mutually exclusive as of the date*" of the *Rebanding Report and Order* are not concepts of any significance in this analysis.

B. The Broward Interference Consent Was Valid and Cannot Be Withdrawn

Broward asserts that the interference consent letter it provided Dade before Dade filed its application is not valid. Although Dade amended its application in 2001 to avoid the need to rely upon this consent, Dade believes that the Commission should be fully aware of the circumstances surrounding the consent letter and the difficulty that has been created for Dade.

Dade relied upon that consent letter in designing the transmission and reception system and filed it with the Commission on the same day Dade filed its application. That letter is fully enforceable, as Dade relied upon it. That Broward might develop second thoughts well after it delivered the consent is a risk that Broward took of its own volition. To allow it to withdraw a consent after an application based upon the consent is filed is to add uncertainty and unnecessary

⁴ PBCSB/WBS Opposition, at 4.

disruption to the licensing process and to give short shrift to the duty all ITFS applicants have under Rule 74.903(c) to cooperate with one another in resolving interference matters.

Broward offers two unconvincing reasons for disavowing the consent letter and petitioning to deny Dade's application over a year after it was filed. First, Broward claims that the consent letter is not Broward's consent because it was issued by the persons within the Broward School Board who run the ITFS system and not the School Board itself.⁵ Thus Broward argues that the Director of the Broward ITV Center, Mr. Livingston, had no authority to sign and provide Dade with the consent letter. This is a ridiculous argument. The Broward ITV Center is a part of the Broward School Board tasked with running the ITFS system. It is not separate from the Broward School Board.

Broward's argument as to Mr. Livingston's authority simply cannot be squared with Broward's past conduct. In fact, the employees within the Broward ITV unit have licensing responsibility for the Broward School Board. Mr. Livingston's subordinate, Mr. Dale Carls, frequently and routinely made representations for the Broward School Board to the Commission and filed authorization applications with the Commission on Broward's behalf. One example is a 1994 letter making representations to the FCC and signed by Mr. Carls on behalf of the Broward School Board.⁶ Another example is a May 22, 1995 letter from Mr. Carls to the Commission.⁷ If, as Broward argues, Mr. Livingston cannot bind the Broward School Board, then how is it that *his subordinate and direct report*, Mr. Carls, was able to make representations

⁵ Petition to Deny (File No. BMPLIF-950915HW), at 2, filed Nov. 1, 1996.

⁶ Letter from Dale F. Carls, Operations Manager, to Secretary, Federal Communications Commission referring to ITFS Stations KTZ22 and KLC80, and File Nos. BMLIF-920410DA & BRIF-860327DA, dated August 15, 1994. A copy of this letter is attached as **Exhibit A**. The Broward School Board relied upon this letter to obtain the grant of that application.

⁷ Letter from Dale F. Carls, Operations Manager, to Secretary, Federal Communications Commission referring to ITFS Stations KTZ22, and File No. BMLIF-920410DA, dated May 22, 1995. A copy of this letter is attached as **Exhibit B**.

for the Broward School Board to the Commission? If, Mr. Livingston was not able to commit the Broward School Board on ITFS matters, we are also puzzled by the fact that it was this same Dr. Livingston who requested Dade's consent to a 1995 application for authority to modify the Broward B-Group station to use the facilities it now uses in a letter in which he committed the Broward School Board to correct any interference to Dade's B-Group station.⁸

Mr. Carls' 1994 letter not only shows the absurdity of Broward's authority argument, its substance shows that the consent Broward issued to Dade was issued as part of an agreement among Broward, Dade and Palm Beach Counties to coordinate their ITFS systems. Thus, Mr. Carls' 1994 letter represented to the FCC that the Broward School Board has:

“coordinated our applications with the current and future plans of our neighboring school districts in Dade County to the south, and Palm Beach County to our north. All three counties utilize the services of Kessler & Gehman, Telecommunications Consulting Engineers, in Gainesville, Florida. In order to provide for the coordinated utilization of all ITFS channel groups in all three counties with minimal or no interference, we have agreed to use vertical polarization of our ITFS channels in Broward County, while horizontal polarization will be used in Dade and Palm Beach counties.”

Broward's only other argument offered to support its claim that the consent letter could be properly withdrawn is its statement that it issued the letter in reliance upon the undertaking of Dade's wireless cable operator to cure interference, but that operator was no longer “in the picture.”⁹ That litigation-driven statement is just plain false. First, that wireless cable operator, South Florida Television Inc., was the wireless cable operator for Dade when the consent letter was delivered and when Broward withdrew its consent over a year later. It remains the operator,

⁸ A copy of that letter is attached in **Exhibit C**. It also appears in Exhibit D to the February 21, 1997 “Opposition to Petition to Dismiss or Deny” filed by Barry University against Broward's Petition against Barry's application for G-Group authorization in Miami, FL (File No. BPLIF-951020PU).

⁹ Petition to Deny (File No. BMPLIF-950915HW), at 2, filed Nov. 1, 1996.

having been acquired by BellSouth Corporation in 1997. Moreover, there is nothing in Broward's consent letter that conditions it upon any assistance from any wireless cable operator.

Broward's interference consent letter (1) was properly issued before Dade filed its application, (2) was relied upon by Dade, (3) furthered a well-conceived plan for the coordination of ITFS in south Florida and (4) cannot be withdrawn by Broward over a year after it was delivered.

C. Dade's Proposal Does Not Cause Interference to Broward's Station.

The Broward Opposition summarily alleges that the Dade application proposes facilities that are predicted to cause interference to Broward's existing G-Group ITFS station, directing the Commission to unspecified previous filings in this proceeding. These interference claims are false. Even if the consent letter were to be ignored, Dade's application does not propose facilities predicted to cause harmful interference.

After Broward petitioned to deny Dade's application, Dade commenced efforts to resolve the matter with the help of South Florida Television Inc. Those efforts continued over a period of years, but ultimately proved fruitless. Dade considered its options, which were two: (1) either rely on the Broward consent letter in the hope that the Commission finds that reliance proper, or (2) amend the application to eliminate interference. Dade ultimately decided that it could not allow the future of such an important project to depend upon the outcome of litigation over a consent letter. Dade, accordingly, reviewed the engineering plan for the frequencies with SFTV and, based upon that review, developed an alternative technical plan for the frequencies that would not create new or increased interference to Broward's G-Group facility. Dade amended its application by minor amendment filed on January 31, 2001 to implement this revised plan

("Dade's Minor Amendment"), and also opposed Broward's petition to deny on that day ("Dade's Opposition").

Nine months later, and well after the due date, Broward filed its reply (the "Broward Reply") to Dade's Opposition. The Broward Reply contains a declaration of a Mr. Scott Ritchie alleging that the amended facilities still would cause interference to Broward's protected reception. It is this declaration that Broward relies upon to assail Dade's amended application. But, that declaration shows nothing. It is no more than an unhelpful, non-analytical and generally bombastic prediction of incompatibility between the Broward and Dade G-Group facilities. It falls far short of the Rule 74.903 interference studies required to show that Dade's Minor Amendment would cause harmful interference to Broward's protected reception.

Mr. Ritchie apparently could find no fault with Dade's Minor Amendment because he manufactured and then studied a hypothetical facility that is materially different from Dade's proposed facility. For example, he assumes that the beam tilt proposed by Dade does not exist,¹⁰ he assumes that Broward uses receive antennas it does not use, and he assumes that Dade must protect receiver designs that Dade as of right has pledged to upgrade.¹¹ He even falsely labels Dade's amendment as "major" in an effort to argue that Dade must protect a Broward PSA as

¹⁰ Broward's engineer ignores the mechanical and electrical beam tilt because "the antenna is not an off the shelf model..." Declaration of Mr. Scott D. Ritchie, at 2. By ignoring those beam tilts, the engineering statement is able to conclude that interference could result at 27 school sites. But, the fact that the antenna is not an off-the-shelf model is no excuse to ignore the beam tilts. Custom antenna design is a stand practice, and the Commission routinely licenses stations with custom antennas. In fact, all of the Atlanta ITFS and MDS licensees are authorized to use custom antennas.

¹¹ Rule 74.903(a)(3) allows a showing of non-interference based upon existing antennas at a receive site and Rule 74.903(a)(4) requires this interference analysis to consider proposed antenna upgrades, rendering Broward's analysis baseless.

well as registered receive sites.¹² Quite simply, there is nothing in the record to refute Dade's showing that its application, as amended, meets the interference requirements of the rules.

The only other affidavit or Rule 1.16 declaration attached to Broward's Reply is one by Mr. Furlong, which is a narrative, without supporting technical analysis, of his experience with the radio frequency environment involved in the operation of B-Group stations in both Miami and Broward County. It is odd that Broward would offer such a statement, as it offers no probative evidence that the proposed Miami G-Group station is predicted to cause harmful interference to the existing Broward G-Group station, which is the only possibly relevant issue. Moreover, while there are some similarities between those B-Group stations and the existing and proposed G-Group stations, there are also some material differences between them other than frequency, including differences in antenna pattern, E.I.R.P and beam tilt. All that Mr. Furlong seems to achieve is calling into question Broward's motive for Broward's unwillingness to cooperate with its neighbor, as Mr. Furlong concludes that the Broward B-Group coexists with the Miami B-Group even though they are separated by only 22 miles with only occasional and

¹² Broward's engineering statement claims that Dade must protect Broward's PSA because the Dade Minor Amendment's request for a digital modulation renders the amendment major. That is simply a false statement. Amendments to add digital emissions are not within the class of major actions listed in Rule 74.911(a)(2) and, accordingly, such amendments do not render the amended application newly-filed. *Request For Declaratory Ruling on the Use of Digital Modulation by Multipoint Distribution Service and Instructional Television Fixed Service Stations*, 11 F.C.C. Rcd. 18839, 18871 (¶ 56) (1996) ("*Digital Decision*"). Moreover, Dade had already requested digital authority in a 1997 amendment submitted pursuant to the *Digital Decision*. At the time Dade filed its application, an ITFS station could only obtain a protected service area ("PSA") if it leased its excess capacity and applied to the Commission for authorization of a PSA. At this time, Broward did not lease excess capacity and neither sought nor had a PSA. This regulatory scheme was changed in 1998, when the Commission decided that all ITFS stations would have PSAs regardless of whether required to protect wireless cable service reception and without the need to file an application for the PSA. *Amendment of Parts 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions*, Report and Order (MM Docket No. 97-217, File No. RM-9060), at ¶ 114 (rel. Sep. 25, 1998) ("In recognition of concerns such as those expressed by the Foundation, we have decided to grant all ITFS licensees PSA protection.").

minor interference (which suggests atmospheric conditions which are not considered “harmful interference” and which would be expected to be caused by another, more distant station). Indeed, as stated above, Broward represented to the Commission in 1994 that Dade, Broward and Palm Beach Counties had agreed to “coordinated utilization of all ITFS channel groups in all three counties with minimal or no interference....”¹³

D. The Interference Consent Provided by Broward to Dade Was Properly Filed.

The PBCSB/WBS Opposition argues that the consent letter was not filed with the application and hence is ineffective.

This new argument is false. The interference consent was obtained before the Dade application was filed, bears an earlier date and was filed with the Commission on the same day the Dade application was filed. The body of Commission precedent on late consents simply does not apply to this consent letter, nor would it make any sense to ignore the consent letter under that precedent.¹⁴

¹³ A copy of this letter is in **Exhibit A**.

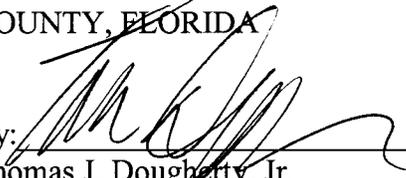
¹⁴ This case precedent addresses and refuses to consider “”consent letters that did not exist at the time the original application was filed....” *Wireless Cable of Florida*, 19 F.C.C. Rcd. 6390, 6392 (2004). Clearly, the Broward consent existed before the September 15, 1995 filing date of the Dade application and was filed on the same day as the Dade application was filed.

II. CONCLUSION

WHEREFORE, THE PREMISES CONSIDERED, THE SCHOOL BOARD OF MIAMI-DADE COUNTY, FLORIDA requests that the Commission return the above-captioned application to pending status and process the application.

Respectfully submitted,

THE SCHOOL BOARD OF MIAMI-DADE
COUNTY, FLORIDA

By: 

Thomas J. Dougherty, Jr.
GARDNER, CARTON & DOUGLAS
1301 K Street, N.W.
Suite 900, East Tower
Washington, D.C. 20005
202-230-5164

Dated: October 21, 2004

EXHIBIT A

The Nation's Largest Fully



Accredited School System

THE SCHOOL BOARD OF BROWARD COUNTY, FLORIDA

Joseph Ceros-Livingston, Ed.D.
Director, Instructional Television
6600 Southwest Nova Drive
Fort Lauderdale, Florida 33317
(305) 370-8350

AUG 15 1994

Chairperson Robert D. Parks
Vice Chairperson Miriam M. Oliphant

Karen Dickerhoof
Eileen S. Schwartz
Toni J. Siskin
Diana Wasserman
Lois Wexler

Dr. Frank R. Petruzielo
Superintendent of Schools

August 12, 1994

The Secretary
Federal Communications Commission
Washington, D.C. 20554

Reference: ITFS Stations KTZ-22 and KLC-80
File Nos: BMLIF- 920410DA & BRIF-860327DA

Gentlemen:

Enclosed herewith are one (1) original and two (2) copies of FCC Form 330, with exhibits, for each of the above referenced ITFS stations. We are also including one additional copy of each of the engineering sections V and VI. These documents represent our applications for changes to the above referenced ITFS stations.

The primary purpose of these applications is to more effectively utilize the eight channels for which we have held licenses for over 25 years. The requested change in classification of KLC-80 from unattended repeater to originating station, and co-locating it with KTZ-22 at the same 50 watts of power, will provide eight (8) channels of ITFS programming, countywide. Exhibits G1 and B1 of the applications explain in detail the need for these additional channels and serve as our justification for a waiver of Section 74.902(c) of the FCC rules.

We have coordinated our applications with the current and future plans of our neighboring school districts in Dade County to our south, and Palm Beach County to our north. All three counties utilize the services of Kessler & Gehman, Telecommunications Consulting Engineers, in Gainesville, Florida. In order to provide for the coordinated utilization of all ITFS channel groups in all three counties with minimal or no interference, we have agreed to use vertical polarization of our ITFS channels in Broward County, while horizontal polarization will be used in Dade and Palm Beach counties.

Therefore, we are requesting permission to change the transmitting antenna of KTZ-22 from horizontal to vertical polarization. KLC-80 is currently licensed for vertical polarization and will use the same transmitting antenna as KTZ-22 if these applications are approved.

Your acceptance and consideration of these applications is appreciated. Please contact this office if you require further information or clarification. My phone number is (305) 370-8351; FAX (305) 370-1648.

Sincerely,


Dale F. Carls
Operations Manager

DFC/dc

Enclosures
c: Joseph Ceros-Livingston

EXHIBIT B



The Nation's Largest Fully

Accredited School System

THE SCHOOL BOARD OF BROWARD COUNTY, FLORIDA

Joseph Ceros-Livingston, Ed.D.
Director, Instructional Television
6600 Southwest Nova Drive
Fort Lauderdale, Florida 33317
(305) 370-8350

Chairperson Miriam M. Oliphant
Vice Chairperson Lois Wexler

Karen Dickerhoof
Dr. Abraham S. Fischler
Robert D. Parks
Dr. Don Samuels
Diana Wasserman

Dr. Frank R. Petruzielo
Superintendent of Schools

May 18, 1995

RECEIVED
MAY 22 1995
FCC MAIL ROOM

The Secretary
Federal Communications Commission
Washington, D.C. 20554

Reference: ITFS Station KTZ-22
File No: BMLIF- 920410DA

Gentlemen:

This letter and the accompanying engineering statement (five copies) from Keith G. Blanton of the firm of Kessler and Gehman Associates, Inc., will serve as official notice to you that, effective this date, the School Board of Broward County, Florida, has begun operation of an ITFS Signal Booster Station in accordance with Section 74.985(g) of the FCC rules.

The purpose of the booster station is to relay the signals of the School Board's above referenced licensed ITFS station to one previously licensed elementary school to which the primary signal is blocked by natural terrain. Details of the installation are included in the enclosed engineering statement.

Please contact this office if you require further information or clarification. My office phone number is (305) 370-8351; FAX (305) 370-1648.

Sincerely,

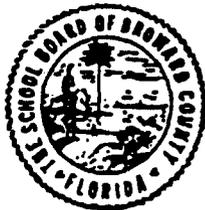
Dale F. Carls
Operations Manager

DFC/dc

Enclosures

c: Joseph Ceros-Livingston
Keith G. Blanton

EXHIBIT C



The Nation's Largest Fully

Accredited School System

THE SCHOOL BOARD OF BROWARD COUNTY, FLORIDA

Joseph Ceros-Livingston, Ed.D.
 Director, Instructional Television
 6600 Southwest Nova Drive
 Fort Lauderdale, Florida 33317
 (305) 370-8350

Chairperson Miriam M. Oliphant
 Vice Chairperson Lois Wexler

Karen Dickertool
 Dr. Abraham S. Flachler
 Robert D. Parks
 Dr. Don Samuels
 Diane Wasserman

Dr. Frank R. Petruzielo
 Superintendent of Schools

April 27, 1995

Mr. Don MacCullough, Executive Director
 Division of Media Programs
 Dade County School Board
 172 N.E. 15th Street
 Miami, FL 33132

Dear Don:

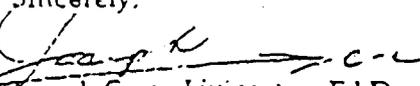
As we have discussed many times in the past, the School Board of Broward County, Florida, currently has an application pending before the FCC to relocate our ITFS station, KLC-80, to our Davie studio site. As you know, KLC-80 operates on the B group of ITFS channels, vertically polarized. We are proposing to relocate it from Coconut Creek, to Davie and increase the transmitter power from 10 to 50 watts. It will utilize the same vertically polarized transmitting antenna as our existing base station, KTZ-22, which is currently operating at 50 watts on the G group, in Davie.

We have both discussed this with our consulting engineers, Kessler & Gehman Associates, in the past, and have both agreed to a tentative "master plan" wherein you would continue to operate all your existing and future ITFS channels horizontally polarized, with possible frequency offsets if required, and we have agreed to change KTZ-22 from horizontal to vertical polarity and operate all our existing and future ITFS channels vertically polarized. This should minimize any possible interference between the two systems, and permit maximum utilization of the ITFS spectrum in the Southeast Florida area.

The FCC has requested that we submit to them, as a supplement to our current application to relocate KLC-80, a letter from you, indicating that you have no objection to our proposal. We have indicated in our application to the FCC that we will cooperate with you in solving any interference problems which might result from our relocation of KLC-80, including the upgrading of your receiving antenna at any affected site.

I would appreciate receiving a letter from you, as described above, at your earliest convenience, so that I may forward it to the FCC.

Sincerely,


 Joseph Ceros-Livingston, Ed.D.
 Director

JC-L/dc
 cc: Dale F. Carls, Operations Manager, ITV

EXHIBIT D

COPY

RECEIVED

FEB 21 1997

Before the
Federal Communications Commission
Washington, D.C. 20554

**FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY**

In re Application of)
)
THE SCHOOL BOARD OF) File No. BMPLIF-950915HW
DADE COUNTY, FLORIDA)
)
For Modification of)
Authorization of ITFS)
Station KTB-85,)
Miami, Florida)

To: The Chief
Video Services Division
Mass Media Bureau

**CONSOLIDATED OPPOSITION TO
PETITIONS TO DISMISS OR DENY**

**THE SCHOOL BOARD OF
DADE COUNTY, FLORIDA**

E. Ashton Johnston
Paul, Hastings, Janofsky & Walker LLP
1299 Pennsylvania Avenue, N.W.
10th Floor
Washington, D.C. 20004-2400
(202) 508-9500

February 21, 1997

TABLE OF CONTENTS

SUMMARY i

I. Background 2

II. The KTB-85 Modification Application Was Timely Filed 3

 A. Palm Beach’s Modification Application Was Not Cut-Off Prior
 to September 15, 1995 3

 B. The July 7, 1995 Cut-Off Date Established by the KTB-84
 Application Does Not Affect the School Board’s KTB-85
 Modification Application 6

III. The Assurances of No Interference to KTZ-22 Remain In Effect 7

IV. Attacks on the Reinstatement of the KTB-85 License Are Untimely 9

V. The School Board’s Request for Digital Authorization Is Not
Defective 10

VI. Conclusion 13

SUMMARY

The School Board of Dade County, Florida (the "School Board"), by its attorney and pursuant to Section 74.912 of the Commission's Rules, hereby submits its Consolidated Opposition to (1) the Petition to Dismiss or Deny filed by Wireless Broadcasting Systems of America, Inc. ("WBSA") and (2) the Petition to Dismiss or Deny filed by the School District of Palm Beach County, Florida ("Palm Beach") with respect to the School Board's application (the "Modification Application") for authority to modify the facilities of the School Board's Instructional Television Fixed Service ("ITFS") Station KTB-85 in Miami, Florida.

Herein, the School Board shows that the WBSA Petition and the Palm Beach Petition demonstrate no legal or factual basis for dismissal of the School Board's Modification Application; consequently, the Petitions must be denied.

The principal argument raised against the Modification Application is that it was untimely filed with respect to an earlier-filed modification application of Palm Beach. However, this argument hinges upon a request for rule waiver filed by Palm Beach, which has not been acted upon, and, as shown herein, should not be granted. The School Board's Modification Application was timely filed in accordance with the Commission's Rules.

WBSA also asserts that the Modification Application fails to provide required interference protection to proposed co-channel ITFS stations. The School Board rejects these claims, which are based upon erroneous engineering analysis, and upon other conclusions that WBSA draws with respect to ITFS stations for which WBSA lacks standing to address concerns of potential interference.

Finally, WBSA and Palm Beach make untimely attacks on the reinstatement of, and processing of the renewal application for, the KTB-85 license. As the School Board shows, processing and grant of the Modification Application will serve the public interest.

RECEIVED

FEB 21 1997

Before the
Federal Communications Commission
Washington, D.C. 20554

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In re Application of)	
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THE SCHOOL BOARD OF)	File No. BMPLIF-950915HW
DADE COUNTY, FLORIDA)	
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For Modification of)	
Authorization of ITFS)	
Station KTB-85,)	
Miami, Florida)	

To: The Chief
Video Services Division
Mass Media Bureau

**CONSOLIDATED OPPOSITION TO
PETITIONS TO DISMISS OR DENY**

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The following is respectfully shown:

^{1/} The School Board has requested unopposed extensions of time until February 21, 1997 to file this Consolidated Opposition.

I. Background

1. The School Board holds licenses from the Commission that authorize the School Board to operate ITFS Stations WHA-956 on the A channel group, WHG-230 on the C channel group, and KTB-84 and KTB-85 on the F channel group in Miami, Florida. The School Board is part of a consortium of instructional, educational, and non-profit institutions and entities in South Florida that are engaged in a cooperative effort to expand the use of telecommunications for the distribution of educational and instructional programming. These entities, which include the licensees of other ITFS stations authorized to operate in Miami, Florida, are working in conjunction with an affiliate of National Wireless Holdings, Inc. to develop a fully-integrated ITFS/wireless cable system that will facilitate the efficient use of ITFS and Multichannel Distribution Service ("MDS") channels for the delivery of both educational programming and wireless cable services. It is contemplated that these ITFS stations would be co-located, enjoying protected service areas and transmitting digitally, in a manner that will maximize the benefits of such a cooperative undertaking and that will truly represent a model of cooperation and efficiency among and between the providers of educational and instructional telecommunications service and the providers of wireless cable service in competition with the incumbent wired cable systems in Dade County.

2. In furtherance of its goals, on September 15, 1995 the School Board filed the Modification Application seeking authority to, inter alia, change the

authorized location of the KTB-85 transmitting facilities, increase the transmitter output power to 50 watts, and utilize either analog or digital transmission.^{2/}

II. The KTB-85 Modification Application Was Timely Filed

A. Palm Beach's Modification Application Was Not Cut-Off Prior to September 15, 1995

3. On May 24, 1995, Palm Beach filed an application for authority to modify its license for ITFS station KZB-29, File Number BMPLIF-950524DM (the "Palm Beach Modification Application"), proposing, inter alia, to relocate the KZB-29 facilities from Riviera Beach, Florida to Boynton Beach, Florida. Palm Beach filed amendments to its Modification Application on August 21, 1995 and September 14, 1995. Also on May 24, 1995, in conjunction with a settlement involving an application to modify Palm Beach's D group channel facilities, Palm Beach submitted to the Commission a request for waiver of the Commission's Rules, which provide that an application seeking a grant of authority to make major changes to an ITFS facility is subject to the filing of competing applications. 47 C.F.R. § 74.911.

4. By Public Notice, Report No. 23564A, released August 3, 1995, the Commission announced that it would accept major change applications from ITFS licensees between August 3, 1995 and September 15, 1995. The Public Notice further stated that "[a]ll ITFS applications for major changes filed during this limited period and all previously tendered and not cut-off ITFS applications will be cut-off

^{2/} The School Board also filed applications for authority to modify the facilities of ITFS Stations WHA-956, WHG-230, and KTB-84.

at the close of the first filing window.^{3/} On September 15, 1995, the School Board timely filed its Modification Application pursuant to the August 3, 1995 Public Notice.

5. On September 30, 1996, the Commission announced the acceptance for filing of both the School Board Modification Application and the Palm Beach Modification Application.^{4/}

6. Although the September 30, 1996 Public Notice plainly reflects a determination by the Commission that the Palm Beach Modification Application had not achieved cut-off status at the time the School Board filed its Modification Application, Palm Beach and WBSA each assert that the School Board's Modification Application and the Palm Beach Modification Application are not mutually exclusive ("MX") because the Palm Beach Modification Application achieved cut-off status prior to September 15, 1995.^{5/}

7. Palm Beach asserts that its Modification Application was cut-off as of May 24, 1995, because it was part of a "market settlement" filed on that date with a request for a waiver of the cut-off rules, and because a grant of that waiver would prevent other parties from filing competing applications. Although the Commission never has acted on Palm Beach's waiver request, Palm Beach argues that the waiver should be granted because it "was filed as part of a marketwide settlement involving

^{3/} Public Notice, Report No. 23564A, released August 3, 1995 (emphasis added).

^{4/} Public Notice, Report No. 23836C, released September 30, 1996.

^{5/} Palm Beach Petition at 4-7; WBSA Petition at 5-12.

27 ITFS and MMDS channels" pursuant to the Commission's policy on waivers of the cut-off rules,^{6/} which provides:

The cut-off rules pertaining to major change proposals may be waived in situations where the proposals are filed to accommodate settlement agreements between applicants that have achieved cut-off status and the settlement resolves mutually exclusive proposals.^{7/}

8. Palm Beach's Modification Application was not cut-off as of May 24, 1995. Footnote 47 plainly applies only where parties resolve MX applications that have achieved cut-off status. The settlement did not involve Palm Beach's Modification Application, but an application for a different station. Palm Beach's Modification Application had not even been filed, let alone achieved cut-off status, when Palm Beach reached a settlement with a competing applicant involving its D Group channels. Moreover, the settlement in fact "resolve[d] the mutually exclusive proposals" only of Palm Beach and FAU, while purporting to resolve applications that were not MX, including Palm Beach's KZB-29 Modification Application.

9. Palm Beach's transparent attempt to bootstrap a settlement involving two applicants and one channel group to encompass "27 ITFS and MMDS channels"^{8/} cannot be credited.^{9/} Footnote 47 is patently inapplicable to the Palm

^{6/} Palm Beach Petition at 1.

^{7/} Instructional Television Fixed Service, MM Docket No. 83-523, Memorandum Opinion and Order on Reconsideration, 59 RR 2d 1355, 1365 n.47 (1986) ("Footnote 47").

^{8/} Palm Beach Petition at 1.

^{9/} The School Board notes that the proposed settlement has been challenged by other parties on grounds that it is inconsistent with the policy established by Footnote 47 even as to the stations directly involved in the settlement. As a
(continued...)

Beach Modification Application. Because the Palm Beach Modification Application was not cut-off, it was subject to competing applications and to the September 15, 1995 cut-off date established by the Commission's August 4, 1995 Public Notice.

10. In sum, waiver of the cut-off rules would be both procedurally improper and would unfairly prejudice the efforts of the School Board and its partners to bring the benefits of wireless cable to the Miami area -- a result that would be patently inconsistent with the public interest.

B. The July 7, 1995 Cut-Off Date Established by the KTB-84 Application Does Not Affect the School Board's KTB-85 Modification Application

11. According to Palm Beach and WBSA, even assuming Palm Beach's application was not cut-off as of May 24, 1995, the KTB-85 Modification Application was untimely filed. They assert that the Commission established a July 7, 1995 cut-off date with respect to the School Board's application to modify ITFS station KTB-84 (File No. BMPLIF-950407DG), that the Palm Beach Modification Application was filed prior to that cut-off date, and that the Palm Beach Modification Application and the KTB-84 proposal are MX.^{10/}

12. Palm Beach's and WBSA's conclusion that the KTB-84 and KZB-29 modification proposals are MX is based on an erroneous engineering analysis, which is appended to the WBSA Petition. That analysis attempts to demonstrate that the changes proposed for KZB-29 do not meet the required adjacent-channel protection for one of KTB-84's proposed receive site ("R1"). As set forth in the

9/(...continued)

result, Palm Beach's applications to modify its various stations more properly should be considered applications for new facilities.

10/ See Palm Beach Petition at 8; WBSA Petition at 8-12.

attached Engineering Statement of Darryl K. DeLawder, however, no adjacent-channel interference to R1 will exist. See Exhibit 1. Consequently, the School Board's KTB-84 modification application is not MX with the Palm Beach Modification Application for KZB-29, and the July 7, 1995 cut-off date with respect to the KTB-84 application has no bearing on the KTB-85 Modification Application.

III. The Assurances of No Interference to KTZ-22 Remain In Effect

13. The School Board's Modification Application included a letter, signed by Joseph J. Ceros-Livingston in his capacity as Director of the Instructional Television Center for the School Board of Broward County, Florida ("Broward"), and dated September 14, 1995, which stated that Broward, the licensee of ITFS Station KTZ-22, had received assurances from the School Board that it "will take whatever steps may become necessary to prevent or correct any interference to the receive sites" for KTZ-22.^{11/} Consequently, the letter continues, Broward "has no objection to" the School Board's Modification Application.

14. WBSA asserts that "the Commission should reject the letter as not representing the affected station's licensee."^{12/} WBSA provides absolutely no support for this assertion. WBSA's claims regarding the authority of Mr. Ceros-

^{11/} A copy of the letter appears at Exhibit F to the WBSA Petition.

^{12/} WBSA Petition at 12.

Livingston are wholly conjectural and WBSA lacks standing to make such claims on behalf of Broward.^{13/}

15. Although WBSA lacks standing to raise any potential defect in the consent granted by Broward, it is certainly worth nothing that WBSA's argument cannot be squared with the facts. While WBSA contends that Dr. Ceros-Livingston lacked authority to grant Broward's consent to the proposed modification of KTB-85, Dr. Ceros-Livingston certainly had apparent authority to bind Broward. For example, the consent letter itself is written on the letterhead of the Broward County Public Schools.

16. In any event, the School Board has never retreated from its promise to take whatever steps may be necessary to correct any interference to KTZ-22's receive sites. To that end, the School Board and Broward are actively engaged in efforts to resolve possible interference to KTZ-22. As is demonstrated by the Engineering Statement annexed as Exhibit 1, it is certainly possible for all of Broward's 189 receive antennas to be upgraded so as to eliminate potential interference. Thus, WBSA is simply wrong when it contends that the resulting interference would be "extensive" or "severe." Not surprisingly, WBSA's analysis totally ignores the possibility of antenna upgrades by Broward. Indeed, given that

^{13/} Broward also filed a Petition to Deny the School Board's Modification Application. Broward has consented to an extension of time for the School Board to respond to that Petition, pending the completion of discussions between the parties to address Broward's concerns.

Broward's receive sites all can be upgraded pursuant to Section 74.903(a)(4) of the Rules, Broward's consent is unnecessary to a grant of the instant application.^{14/}

IV. Attacks on the Reinstatement of the KTB-85 License Are Untimely

17. By letter dated December 11, 1995 (Commission Reference 1800E3-MAE), the Acting Chief of the Distribution Services Branch (the "Staff") granted the School Board's Petition for Reconsideration of the cancellation of the KTB-85 license, reinstated the KTB-85 license, and accepted for filing the School Board's application for renewal of the license for KTB-85.

18. In their Petitions, Palm Beach and WBSA attack the Staff's processing of the KTB-85 renewal application and resort to ad hominem attacks on the Commission's exercise of authority.^{15/} Such attacks are untimely and unwarranted. The public was provided notice of the decision to accept the KTB-85 renewal application in October 1995. Public Notice, Report No. 23622, released October 27, 1995. Palm Beach and WBSA did not object in a timely manner to the decision to process the application.

19. Most importantly, the public interest will be served by reinstatement of the KTB-85 license and grant of the KTB-85 Modification Application. It is contemplated that the proposed multi-station ITFS/wireless cable

^{14/} Because the School Board can protect all of Broward's receive sites for KTZ-22 to 45 dB D/U, there is no merit to WBSA's unsubstantiated assertion that the School Board's request for digital operating authority is flawed for failure to meet the 45 dB standard. See WBSA Petition at 16.

^{15/} See, e.g., WBSA Petition at 4.

system in South Florida -- including KTB-85 -- will serve the needs of students enrolled not only in the Dade County Public Schools, but also at Barry University, Florida International University, Miami-Dade County Community College, and the Broward County Public Schools with a variety of educational and instructional offerings. As the Commission is aware, South Florida may be unique among the major metropolitan areas of the country in that the student universe includes significant elements fluent in only one of three separate languages: English, French, or Spanish. Accordingly, the consortium of which the School Board is a member has a greater need for channel capacity for educational and instructional programming than might be the case in other metropolitan areas.

20. In addition, the wireless cable portion of the ITFS/wireless cable system provides crucial financial support to the development of the system. For every subscriber to the wireless cable system, the educational consortium receives One Dollar (\$1.00) in financial support, and to date has received \$750,000 from its wireless cable partner toward the development of the system, which -- once in operation on all of the ITFS/MDS channel groups -- will provide meaningful competition to the local wired cable system, an objective toward which many of the Commission's current Rules and policies aspire.

**V. The School Board's Request for
Digital Authorization Is Not Defective**

21. The School Board's Modification Application includes a request for authorization to utilize either analog or digital transmission, at the School Board's discretion. Amendment, Exhibit E-7.

22. On July 10, 1996, the Commission issued a Declaratory Ruling and Order in which it granted a request, filed in July 1995 by 99 parties with interests in the wireless cable industry, for a ruling that the Commission's Rules permit the use of digital transmissions by MDS and ITFS stations.^{16/} The Commission held that existing provisions of the Commission's rules "allow[] sufficient latitude for authorization of digital transmissions over MDS and ITFS stations," and granted certain waivers requests associated with the Petition for Declaratory Ruling.^{17/} The Commission required that pending applications, such as the School Board's, must be amended to specify a digital emission designator.^{18/}

23. WBSA ignores the clear guidance offered by Commission in the Digital Ruling with respect to pending applications, and asserts that the KTB-85 Modification Application is defective and should be dismissed because it was filed prior to the Commission's adoption of the Digital Ruling and therefore was "totally unauthorized".^{19/} The Digital Ruling clearly contemplated the filing of amendments by applicants with pending requests for digital authorization.^{20/} Indeed, the request granted by the Commission specifically sought permission to

^{16/} In the Matter of Request for Declaratory Ruling on the Use of Digital Modulation by Multipoint Distribution Service and Instructional Fixed Service Stations, DA-1854, released July 10, 1996 ("Digital Ruling").

^{17/} Id. at para. 9.

^{18/} Id. at para. 53.

^{19/} WBSA Petition at pp. 16-17.

^{20/} See Digital Ruling, at paras. 52, 53; n.34.

amend pending applications.^{21/} Notably, WBSA was one of the petitioners and joined in that request.^{22/} On January 30, 1997, WBSA's affiliate itself filed an amendment to Palm Beach's Modification Application for KZB-29, seeking authority to utilize digital transmissions. Notably, that amendment does not afford 45 Db D/U interference to the proposed KTB-85 facilities. In fact, the Engineering Statement appended to the amendment states that KTB-85 "must accept any interference that may occur" because the Modification Application "was filed after the KZB-29 application." This conclusion prejudices Palm Beach's request for waiver of the cut-off rules; as shown herein, there is no basis for granting such a waiver to Palm Beach.

24. In sum, as demonstrated by the interference analysis accompanying the Modification Application, the proposed KTB-85 station does not have an unobstructed electrical path to any of the receive sites of currently authorized KZB-29. The interference analysis also clearly states that "[t]his application is mutually-exclusive with the application to move the KZB-29 transmitter site to Boynton Beach." While implementation of the School Board's proposal would cause the D/U ratio within the proposed protected service area of the modified KZB-29 to exceed 45 dB, that is of no moment. As discussed above, the Modification Application was a timely filed application that is MX with the KZB-29 modification proposal. The fact that the School Board is proposing to operate with digital modulation in no manner changes the Commission's cut-off rules or otherwise obligates the School

^{21/} See id. at n.65.

^{22/} See Digital Ruling, Appendix A.

Board to protect the proposed modifications to KZB-29 before the application proposing those modifications had been cut-off from competing applications.

VI. Conclusion

WHEREFORE, the foregoing premises having been duly considered, the School Board of Dade County, Florida respectfully requests that the Commission deny the Petition to Dismiss or Deny filed by Wireless Broadcasting Systems of America, Inc. and the Petition to Dismiss or Deny filed by the School District of Palm Beach County, Florida, and move expeditiously to grant the School Board's Modification Application.

Respectfully submitted,

**THE SCHOOL BOARD OF
DADE COUNTY, FLORIDA**

By:


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February 21, 1997

82796.1

EXHIBIT 1

ENGINEERING REPORT

DELAWDER COMMUNICATIONS, INC.

(703) 658-5390

Miami, Florida (KTB-85)
Support of Response to Petition to Dismiss or Deny

ENGINEERING STATEMENT

1. This Engineering Statement supports a response to a petition to dismiss or deny the modification application of the School Board of Dade County, Florida ("Dade") (FCC File Number BMPLIF-950915HW) filed by The School Board of Palm Beach County, Florida (the "Board") and Wireless Broadcasting Systems of America, Inc. ("WBS"). The Dade application proposes to modify KTB-85, its ITFS F-Group station at Miami, Florida. The Board and WBS (collectively referred to as "Board/WBS") are, respectively, the permittee and lessee of excess air time of ITFS G-Group station KZB-29 at West Palm Beach, Florida. The Board has on file with the Commission an application (FCC File Number BMPLIF-950524DM) to move the transmitter site approximately 17.7 miles to Boynton Beach, Florida.

2. Additionally, a study is included which demonstrates that adequate cochannel protection from the proposed facilities of BMPLIF-950915HW can be achieved to KTZ-22 (ITFS G-Group at Fort Lauderdale, Florida) by upgrading 78 of KTZ-22's 189 registered receive sites¹.

BMPLIF-950524DM is not Mutually-exclusive with BMPLIF-950407DG (A Modification to Move the Transmitter Site of KTB-84 to Fort Lauderdale, Florida)

3. The Board/WBS contends that the KZB-29 transmit facilities proposed in BMPLIF-950524DM are mutually-exclusive with the facilities of KTB-84 as also proposed by Dade (a site-move to Fort Lauderdale, Florida; FCC File Number BMPLIF-950407DG); and since BMPLIF-950407DG was cutoff on July 7, 1995, the KTB-85 modification application by Dade is untimely. The Board/WBS supports this contention by demonstrating that the required adjacent-channel protection ratio (0 dB D/U ratio) is not met to proposed KTB-84 receive site R1 by the adjacent-

¹ Since an interference consent agreement from KTZ-22 was included in BMPLIF-950915HW, an interference study to KTZ-22 is not required. Dade has requested that this statement include a KTZ-22 interference and antenna upgrade study.

ENGINEERING REPORT

DELAWDER COMMUNICATIONS, INC.

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Miami, Florida (KTB-85)
Support of Response to Petition to Dismiss or Deny

channel transmit facilities of BMPLIF-950524DM. It is herein demonstrated that the Board/WBS interference study is flawed; and that the proposed KTB-84 receive site R1 is adequately protected to a D/U ratio above the required 0 dB level.

4. The KTB-84 receive site R1 receive antenna is to be mounted at the same site as the proposed adjacent-channel KZB-29 transmit antenna at Boynton Beach. The R1 receive antenna will be mounted at 45 feet above ground level, as specified in BMPLIF-950407DG. The proposed KZB-29 transmit antenna radiation centerline height (as amended) is 305 feet AGL. The ComSpec engineering declaration supporting the Board/WBS petition indicates that for its calculations "...WTB-84 {sic} receive site R1 is presumed to be mounted below the {proposed} KZB-29 transmitting antenna". ComSpec must incorrectly assume that the KTB-84 receive site R1 receive antenna is mounted directly below the propose KZB-29 receive antenna. In fact, ComSpec's calculations are only valid if no signal loss from the proposed KZB-29 transmit antenna and the proposed KTB-84 receive site R1 receive antenna were to exist due to the separation between the two antennas. Due to the proposed separation between the two antennas of 260 feet and the corresponding signal loss from the KZB-29 transmit antenna due to this separation, the ComSpec interference calculation which does not account for this separation signal loss is flawed.

5. Table 1, attached, are D/U ratio studies comparing the incorrect ComSpec study (-37.51 dB D/U ratio) with the corrected study (+41.37 dB D/U ratio). Due to the difference between the ComSpec and corrected calculated free space loss (fsl) which exists between the proposed KZB-29 transmit antenna and the KTB-84 receive site R1 receive antenna, ComSpec has incorrectly determined that adjacent-channel interference to the KTB-84 receive site R1 will exist. As demonstrated by the corrected study of Table 1, the KTB-84 receive site R1 is adequately protected from adjacent-channel interference from the proposed KZB-29 station.

ENGINEERING REPORT

DELAWDER COMMUNICATIONS, INC.

(703) 658-5390

Miami, Florida (KTB-85)
Support of Response to Petition to Dismiss or Deny

Similar Adjacent-channel Protection Between Authorized WHR-877 (Boca Raton, Florida A1-A4) and Authorized WHR-896 (Boynton Beach, Florida B1-B4)

6. It is not at all uncommon for adequate adjacent-channel protection to result to a receive antenna mounted on the same structure as an adjacent-channel transmit antenna with an appropriate amount of separation between the transmit and receive antennas. An ITFS relay station which is receiving an incoming signal and then transmitting on an adjacent channel is a typical example. Interestingly, we need to look no further than the authorized Boynton Beach station WHR-896 (ITFS channel A-1 to A-4), which is also leasing excess channel capacity to WBS, for an example. The authorized WHR-896 transmit antenna (radiation centerline height at 396' AGL) is mounted on the same tower as the authorized WHR-877 receive site RT-1 (operating on adjacent-channels B-1 through B-4, with a radiation centerline height of 217' AGL). The separation between the authorized WHR-896 transmit antenna and the authorized WHR-877 RT-1 receive antenna is 179 feet.

7. Table 2, attached, includes interference studies of WHR-877 RT-1 from the authorized WHR-896 station, comparing the D/U ratio values using the incorrect ComSpec method and the corrected method. As demonstrated by Table 2, the ComSpec method predicts interference (-32,50 dB D/U ratio), whereas, the corrected method predicts adequate protection (+42.76 dB D/U ratio).

8. The application supporting the authorized for WHR-896 station (FCC File Number BPLIF-920814DB) indicates that the receive antenna of WHR-877 will be mounted at 370' AGL (instead of 217' AGL as specified in the WHR-877 application). At 370' AGL, the WHR-896 transmit antenna and the WHR-877 RT-1 receive antenna are separated by only 26 feet! Even with this small amount of separation between the antennas, BPLIF-920814DB indicates that the receive antenna of WHR-877 will be mounted "such that interference will not be received from the B channel transmitting antenna".

ENGINEERING REPORT

DELAWDER COMMUNICATIONS, INC.

(703) 658-5390

Miami, Florida (KTB-85)
Support of Response to Petition to Dismiss or Deny

Cochannel Protection to KTZ-22

9. 47 C. F. R. Section 74.903(a)(1) specifies that harmful cochannel interference is considered present when the desired-to-undesired (hereafter "D/U") ratio is less than 45 dB at the output of the reference receive antenna orientated to receive the maximum desired signal. Using the specified receive antenna or reference receive antenna of 47 C. F. R. Section 74.937, Table 3, attached, demonstrates predicted cochannel interference from the modified KTB-85 facility to 78 of the 189 KTZ-22 receive sites. Except for two receive sites, the D/U ratio values are predicted to be above 30 dB.

10. One of the new Conifer flat-panel receive antennas (model # QD-2127) can be used to upgrade 69 of the 78 interfered-with receive sites of KTZ-22 in order to meet the required 45 dB D/U ratio level. (These receive sites are identified with "CON" in the code section of Table 3.) Conifer's specification sheet for the QD-2127 receive antenna indicates that better than 40 dB of cross-polarization signal rejection is realized on the nose of this antenna, and at least 50 dB of front-to-back cross-polarization signal rejection is achieved. From the specification sheet data we were able to conclude that the QD-2127 receive antenna can be used to meet the cochannel protection requirements to these 69 receive sites.

11. Since the Conifer QD-2127 has a gain of only 16 dBi, in many instances the replacement of the specified higher-gain receive antenna with the Conifer antenna will result in less desired signal at the KTZ-22 receive site. However, since KTZ-22 operates at 50 watts (and 28 dBw EIRP) and all such receive sites are located within 17 miles of the KTZ-22 transmitter site, the Conifer QD-2127 should provide acceptable service to each upgraded receive site even with the lower 16 dBi antenna gain. In most instances the KTZ-22 receive sites specify much larger receive antennas than required for service. The cost of the Conifer antenna is less than \$100.00.

ENGINEERING REPORT

DELAWDER COMMUNICATIONS, INC.

(703) 658-5390

Miami, Florida (KTB-85)
Support of Response to Petition to Dismiss or Deny

12. The other nine KTZ-22 receive sites which require antenna upgrades have also been upgraded to meet a 45 dB D/U ratio, as shown in TABLE 4.MARK.UPGRADES. The Mark P25A96G (8' parabolic grid) and the Mark P25A72 (6' parabolic solid) antennas used as upgrades have listed retail costs (per antenna) of \$3,000.00 and \$2,000.00, respectively.

13. The estimated cost to purchase and install the 78 upgrade antennas is approximately \$50,000.00.

14. Except for the Conifer QD-2127 receive antenna, the antenna patterns for the receive antennas indentified for KTZ-22 are attached as Figures PAT.1 through PAT.8.

TABLE 1 : D/U STUDY OF PROPOSED KTB-84 RECEIVE SITE R-1

Desired Station (D) : Proposed KTB-84 (BMPLIF-950407DG)
 Undesired Station (U) : Proposed KZB-29 (BMPLIF-950524DM)

Protected Rec. Site : KTB-84 R1 (Palm Beach County ITV Ctr.)

Coords: N26° 31' 22"; W80° 05' 29"

Rad. centerline height : 40' AGL (55' AMSL)

Receive Antenna Type : Lance 2572 (6' Parabolic)

Distance from :

Proposed KTB-84 Trans. Antenna : 31.38 miles

Proposed KZB-29 Trans. Antenna : 0.049 miles (260 feet)

(This represents the vertical plane distance between the transmit antenna at 305' AGL and receive antenna at 45' AGL at the same geographical coordinate location.)

	<u>INCORRECT COMSPEC STUDY</u>		<u>CORRECTED STUDY</u>
<u>Desired Station</u> (V-Pol, Omni, Andrew HMD16VO-W)	<u>dB, dBw</u>		<u>dB, dBw</u>
Max. EIRP (dBw) :	27.99		27.99
Trans. Rel. Field, Rel. dB :			
H-Plane : 1.000	0.00	1.000	0.00
V-Plane : 1.000	0.00	1.000 ¹	0.00 ¹
Free Space Loss (dB):	-134.91		-134.91
Rec. Antenna Gain (dBi):	<u>30.1</u>		<u>30.1</u> ¹
Receive Signal Level (dBw):	-76.82		-76.82

<u>Undesired Station</u> (H-Pol, Omni, Andrew HMD16HO)	<u>dB, dBw</u>		<u>dB, dBw</u>
Max. EIRP (dBw) :	27.59		27.59
Trans. Rel. Field, Rel. dB :			
H-Plane : 1.000	0.00	1.000	0.00
V-Plane : 0.001	-60.00	0.001	-60.00
Free Space Loss (dB):	0.00		-78.88
Rec. Antenna Gain (dBi):	<u>-6.9</u>		<u>-6.9</u> ¹
Receive Signal Level (dBw):	-39.31		-118.19
=====			
D/U Ratio (dB):	-37.51		+41.37
=====			

¹ We have determined a value that is slightly different; but the difference is insignificant or irrelevant. The WBSA value is, therefore, not being disputed.

TABLE 2 : D/U STUDY OF AUTHORIZED WHR-877 RECEIVE SITE RT-1

Desired Station (D) : Authorized WHR-877 (Boca Raton A1-A4)
 Undesired Station (U) : Authorized WHR-896 (Boynton Beach B1-B4)

Protected Rec. Site : WHR-877 RT-1 (Palm Beach County ITV Ctr.)
 Coords: N26° 31' 22"; W80° 05' 29"
 Rad. centerline height : 217' AGL¹ (232' AMSL)
 Receive Antenna Type : Andrew 49001A (2' Parabolic)
 Distance from :
 Authorized WHR-877 Trans. Antenna : 10.48 miles
 Authorized WHR-896 Trans. Antenna : 0.034 miles (179 feet)
 (This represents the vertical plane distance between
 the transmit antenna at 396' AGL and receive antenna
 at 217' AGL at the same geographical coordinate
 location.)

	STUDY USING INCORRECT COMSPEC METHOD		STUDY USING CORRECTED METHOD	
<u>Desired Station</u>	<u>dB, dBw</u>		<u>dB, dBw</u>	
(V-Pol, Parabolic, Andrew GP6-25A)				
Max. EIRP (dBw) :	23.10		23.10	
Trans. Rel. Field, Rel. dB :				
H-Plane : 1.000	0.00	1.000	0.00	
V-Plane : 1.000	0.00	1.000	0.00	
Free Space Loss (dB):	-125.04		-125.04	
Rec. Antenna Gain (dBi):	<u>21.7</u>		<u>21.7</u>	
Receive Signal Level (dBw):	-80.24		-80.24	

<u>Undesired Station</u>	<u>dB, dBw</u>		<u>dB, dBw</u>	
(H-Pol, Omni, Andrew HMD16HO)				
Max. EIRP (dBw) :	20.56		20.56	
Trans. Rel. Field, Rel. dB :				
H-Plane : 1.000	0.00	1.000	0.00	
V-Plane : 0.001	-60.00	0.001	-60.00	
Free Space Loss (dB):	0.00		-75.26	
Rec. Antenna Gain (dBi):	<u>-8.3</u>		<u>-8.3</u>	
Receive Signal Level (dBw):	-47.74		-123.00	
=====				
D/U Ratio (dB):	-32.50		+42.76	
=====				

¹ The authorized WHR-896 application (BPLIF-920814DB) actually indicates that the WHR-877 RT-1 receive site antenna will be mounted at 370' AGL - **only 26' below the WHR-896 transmit antenna!** For the purpose of this study the lower height of 217' AGL height (as specified in the WHR-877 application) is used.

TABLE 3 (PAGE 1 OF 13)

DESIRED STATION:
 KTZ-22, Fort Lauderdale, FL (CP)
 G1-G4

UNDESIREd STATION:
 KTB-85, Miami, Fl (Mod.)
 G1-G4

 TX SITE: N26- 5- 9.0; W 80-14- 8.0
 ANT. TYPE: Andrew HMD16VO (OMNI)

 TX SITE: N25-46-20.0; W 80-11-20.0
 ANT. TYPE: Andrew HMD16HW-W (@ 295.0T)

POLARIZATION: VERTICAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 3.00
 MAX ANT. GAIN(dBi): 14.00
 MAX EIRP (dBm): 57.99

POLARIZATION: HORIZONTAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 2.00
 MAX ANT. GAIN(dBi): 16.30
 MAX EIRP (dBm): 61.29

RE	SITE IDENTIFICATION	N LATITUDE	W LONGITUDE	REC ANTENNA TYPE	AMSL-FT
R1	Tropical Elementary	26- 6-10.0	80-14- 7.0	REF	none
R2	James S. Hunt Elementary	26-16-23.0	80-13-52.0	REF	none
R3	Riverglades Elementary	26-19-17.0	80-13-45.0	MARK P25A72G	none
R4	Silver Lakes Middle	26-12-50.0	80-13-37.0	MARK P25A48	none
R5	North Lauderdale Elementary	26-12-59.0	80-13-35.0	MARK P25A24	none
R6	Morrow Elementary	26-13-37.0	80-13-31.0	ANDREW P4F-25D	none
R7	Coral Springs High School	26-16-23.0	80-13-14.0	ANDREW P4F-25D	none
R8	Forest Glen Middle School	26-17- 8.0	80-12-53.0	MARK P25A48G	none
R9	Atlantic West Elementary	26-14- 0.0	80-13- 0.0	MARK P25A24	none
R10	Park Springs Elementary	26-17-30.0	80-12-36.0	MARK P25A72G	none
R11	Margate Elementary	26-15- 2.0	80-12-37.0	MARK P25A24	none
R12	Royal Palm Elementary	26- 9- 3.0	80-13-32.0	REF	none
R13	Margate Middle	26-14-10.0	80-12-42.0	MARK P25A24	none
R14	Telecable of Broward	26-18-40.0	80-11-37.0	MARK P25A72G	none
R15	Broadview Elementary	26-12-17.0	80-12-25.0	MARK P25A24	none

REC SITE	FROM DESIRED				FROM UNDESIREd				RECEIVER		D/U RATIO	C* O D E
	Dist mi	Azim deg T	EIRP dBmW	FSL dB	Dist mi	Azim deg T	EIRP dBmW	FSL dB	ANGLE deg	DISCR dB		
R1 Tropi	1.2	1.0	58.0	106.5	23.0	352.8	61.2	132.4	8.2	-24.0	46.6	
R2 James	12.9	1.2	58.0	127.3	34.7	355.7	61.3	135.9	5.6	-21.5	26.7	CON
R3 River	16.3	1.4	58.0	129.3	38.0	356.2	61.3	136.7	5.2	-35.0	39.1	CON
R4 Silve	8.9	3.5	58.0	124.1	30.6	355.6	61.3	134.8	7.9	-30.0	37.5	CON
R5 North	9.0	3.6	58.0	124.2	30.8	355.7	61.3	134.9	8.0	-30.0	37.4	CON
R6 Morro	9.8	3.7	58.0	124.9	31.5	355.9	61.3	135.1	7.9	-35.0	41.9	CON
R7 Coral	13.0	4.1	58.0	127.4	34.6	356.8	61.3	135.9	7.4	-35.0	40.2	CON
R8 Fores	13.9	5.3	58.0	127.9	35.5	357.4	61.3	136.1	7.9	-33.0	37.9	CON
R9 Atlan	10.3	6.6	58.0	125.3	31.9	356.9	61.3	135.2	9.7	-30.0	36.6	CON
R10 Park	14.3	6.4	58.0	128.2	35.9	357.9	61.3	136.2	8.5	-35.0	39.7	CON
R11 Marg	11.5	7.8	58.0	126.3	33.1	357.7	61.3	135.5	10.2	-30.0	35.9	CON
R12 Roya	4.5	7.9	58.0	118.2	26.2	355.0	61.3	133.5	12.9	-30.1	42.1	CON
R13 Marg	10.5	8.1	58.0	125.5	32.1	357.5	61.3	135.2	10.7	-30.0	36.4	CON
R14 Tele	15.8	9.5	58.0	129.1	37.2	359.5	61.3	136.5	9.9	-35.0	39.2	MAR
R15 Broa	8.4	12.2	58.0	123.6	29.9	357.9	61.3	134.6	14.4	-30.0	37.7	CON

* - CODES AND NOTES PROVIDED ON EXHIBIT EE-CODES

DESIRED STATION:
 KTZ-22, Fort Lauderdale, FL (CP)
 G1-G4

UNDESIRED STATION:
 KTB-85, Miami, Fl (Mod.)
 G1-G4

 TX SITE: N26- 5- 9.0; W 80-14- 8.0
 ANT. TYPE: Andrew HMD16VO (OMNI)

 TX SITE: N25-46-20.0; W 80-11-20.0
 ANT. TYPE: Andrew HMD16HW-W (@ 295.0T)

POLARIZATION: VERTICAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 3.00
 MAX ANT. GAIN(dBi): 14.00
 MAX EIRP (dBm): 57.99

POLARIZATION: HORIZONTAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 2.00
 MAX ANT. GAIN(dBi): 16.30
 MAX EIRP (dBm): 61.29

RE	SITE IDENTIFICATION	N	LATITUDE	W	LONGITUDE	REC	ANTENNA TYPE	AMSL-FT
R16	Semiola Middle	26- 6-	6.0	80-13-	55.0		REF	none
R17	Winston Park Elementary	26-17-	44.0	80-11-	1.0	MARK	P25A48G	none
R18	Atlantic Vocational Center	26-14-	34.0	80-11-	33.0		REF	none
R19	Lauderhill Middle	26- 8-	56.0	80-13-	1.0		REF	none
R20	Coconut Creek High	26-14-	47.0	80-11-	2.0		REF	none
R21	Castle Hill Elementary	26- 9-	33.0	80-12-	42.0	MARK	P25A24	none
R22	Quiet Water Elementary	26-19-	1.0	80- 9-	23.0	MARK	P25A48G	none
R23	Coconut Creek Elementary	26-14-	13.0	80-11-	1.0	MARK	P25A24	none
R24	Lauderhill P.T. Elementary	26- 8-	36.0	80-12-	53.0	MARK	P25A24	none
R25	Charles Drew Elementary	26-14-	31.0	80- 9-	43.0	MARK	P25A24	none
R26	Cross Creek School	26-14-	33.0	80- 9-	40.0	MARK	P25A48G	none
R27	Cypress Run Alt. Center	26-15-	11.0	80- 9-	10.0		REF	none
R28	Charles Drew Resource	26-14-	25.0	80- 9-	25.0	MARK	P25A24	none
R29	Deerfield Beach High	26-17-	45.0	80- 7-	5.0	MARK	P25A72G	none
R30	Boyd H. Anderson High	26-10-	36.0	80-11-	5.0	MARK	P25A48	none

==== D/U RATIO STUDIES =====

REC SITE	FROM DESIRED				FROM UNDESIRED				RECEIVER		D/U RATIO	C* O D E
	Dist mi	Azim deg T	EIRP dBmW	FSL dB	Dist mi	Azim deg T	EIRP dBmW	FSL dB	ANGLE deg	DISCR dB		
R16 Semi	1.1	11.6	58.0	106.1	22.9	353.3	61.2	132.3	18.3	-36.0	59.0	
R17 Wins	14.8	12.5	58.0	128.5	36.1	0.5	61.3	136.3	12.0	-35.5	40.0	CON
R18 Atla	11.2	13.8	58.0	126.1	32.5	359.6	61.3	135.4	14.2	-33.9	39.9	CON
R19 Laud	4.5	14.8	58.0	118.2	26.1	356.2	61.3	133.4	18.7	-36.0	48.0	
R20 Coco	11.5	16.1	58.0	126.4	32.7	0.5	61.3	135.4	15.6	-36.0	41.8	CON
R21 Cast	5.3	16.3	58.0	119.6	26.8	357.0	61.3	133.7	19.3	-30.0	40.8	CON
R22 Quie	16.7	17.1	58.0	129.6	37.7	3.1	61.2	136.6	14.0	-38.0	41.8	MAR
R23 Coco	10.9	17.1	58.0	125.9	32.1	0.6	61.3	135.2	16.6	-30.0	36.1	CON
R24 Laud	4.2	18.0	58.0	117.5	25.7	356.4	61.3	133.3	21.6	-30.1	42.6	CON
R25 Char	11.7	22.9	58.0	126.5	32.5	2.9	61.2	135.3	20.0	-30.0	35.6	CON
R26 Cros	11.8	23.1	58.0	126.5	32.5	3.0	61.2	135.4	20.1	-38.1	43.7	CON
R27 Cypr	12.6	23.9	58.0	127.1	33.3	3.9	61.2	135.6	20.1	-36.0	41.2	CON
R28 Char	11.7	24.5	58.0	126.5	32.4	3.5	61.2	135.3	21.1	-30.0	35.6	CON
R29 Deer	16.2	26.6	58.0	129.3	36.4	6.9	61.1	136.3	19.7	-35.0	38.9	MAR
R30 Boyd	7.0	26.7	58.0	122.0	27.9	0.5	61.3	134.0	26.2	-40.8	49.5	

* - CODES AND NOTES PROVIDED ON EXHIBIT EE-CODES

TABLE 3 (PAGE 3 OF 13)

DESIRED STATION:
 KTZ-22, Fort Lauderdale, FL (CP)
 G1-G4

UNDESIRED STATION:
 KTB-85, Miami, Fl (Mod.)
 G1-G4

 TX SITE: N26- 5- 9.0; W 80-14- 8.0
 ANT. TYPE: Andrew HMD16VO (OMNI)

 TX SITE: N25-46-20.0; W 80-11-20.0
 ANT. TYPE: Andrew HMD16HW-W (@ 295.0T)

POLARIZATION: VERTICAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 3.00
 MAX ANT. GAIN(dBi): 14.00
 MAX EIRP (dBm): 57.99

POLARIZATION: HORIZONTAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 2.00
 MAX ANT. GAIN(dBi): 16.30
 MAX EIRP (dBm): 61.29

REC SITE IDENTIFICATION	N LATITUDE	W LONGITUDE	REC ANTENNA TYPE	AMSL-FT
R31 Oriole Elementary	26-10-27.0	80-11- 8.0	MARK P25A48G	none
R32 Tedder Elementary	26-16-44.0	80- 7-27.0	MARK P25A72G	none
R33 Deerfield Park Elementary	26-18-31.0	80- 6-24.0	ANDREW P4F-25	none
R34 Plantation Park Elementary	26- 6-32.0	80-13-20.0	MARK P25A48G	none
R35 Bright Horizons Center	26-16-33.0	80- 7-26.0	ANDREW P2F-25A	none
R36 Lauderdale Lakes Middle	26-10-26.0	80-11- 2.0	MARK P25A48	none
R37 Deerfield Beach Elementary	26-19-10.0	80- 5-44.0	MARK P25A48	none
R38 Park Ridge Elementary	26-17-44.0	80- 6-31.0	REF	none
R39 Robert C. Markham Elementa	26-14-41.0	80- 8-16.0	REF	none
R40 Deefield Beach Middle	26-18-29.0	80- 8-52.0	MARK P25A72G	none
R41 Crystal Lake Middle	26-16-21.0	80- 7- 7.0	MARK P25A48G	none
R42 Palmview Elementary	26-15-46.0	80- 7-27.0	MARK P25A24	none
R43 Sanders Park Elementary	26-14-52.0	80- 8- 0.0	MARK P25A72G	none
R44 Ely High	26-14-27.0	80- 8- 3.0	MARK P25A48G	none
R45 Plantation Elementary	26- 7-25.0	80-12-39.0	MARK P25A24	none

===== D/U RATIO STUDIES =====

REC SITE	FROM DESIRED				FROM UNDESIRED				RECEIVER		D/U RATIO	C* O D E
	Dist mi	Azim deg T	EIRP dBmW	FSL dB	Dist mi	Azim deg T	EIRP dBmW	FSL dB	ANGLE deg	DISCR dB		
R31 Orio	6.8	26.9	58.0	121.8	27.8	0.4	61.3	134.0	26.5	-42.0	50.9	
R32 Tedd	15.0	27.3	58.0	128.6	35.2	6.5	61.1	136.1	20.8	-35.0	39.3	MAR
R33 Deer	17.3	27.4	58.0	129.9	37.4	7.8	61.1	136.6	19.6	-35.0	38.6	MAR
R34 Plan	1.8	27.4	58.0	110.2	23.3	354.9	61.3	132.5	32.5	-42.0	61.0	
R35 Brig	14.8	27.8	58.0	128.5	35.0	6.6	61.1	136.0	21.2	-32.0	36.3	CON
R36 Laud	6.9	27.8	58.0	121.9	27.7	0.6	61.3	134.0	27.1	-40.9	49.7	
R37 Deer	18.3	28.2	58.0	130.4	38.2	8.7	61.0	136.8	19.6	-40.4	43.8	MAR
R38 Park	16.5	28.5	58.0	129.5	36.5	7.8	61.1	136.4	20.7	-36.0	39.8	MAR
R39 Robe	12.5	28.9	58.0	127.1	32.8	5.5	61.1	135.4	23.4	-36.0	41.2	CON
R40 Deef	16.3	19.5	58.0	129.3	37.1	3.9	61.2	136.5	15.6	-35.0	38.9	MAR
R41 Crys	14.8	29.3	58.0	128.5	34.8	7.2	61.1	136.0	22.2	-40.2	44.5	MAR
R42 Palm	14.0	29.4	58.0	128.1	34.1	6.7	61.1	135.8	22.7	-30.4	35.0	CON
R43 Sand	12.9	29.5	58.0	127.3	33.0	6.0	61.1	135.5	23.5	-35.0	40.1	CON
R44 Ely	12.4	30.4	58.0	127.0	32.5	6.0	61.1	135.4	24.4	-42.0	47.2	
R45 Plan	3.0	30.4	58.0	114.7	24.3	356.8	61.3	132.8	33.7	-32.9	47.7	

* - CODES AND NOTES PROVIDED ON EXHIBIT EE-CODES

TABLE 3 (PAGE 4 OF 13)

DESIRED STATION:
 KTZ-22, Fort Lauderdale, FL (CP)
 G1-G4

UNDESIRED STATION:
 KTB-85, Miami, Fl (Mod.)
 G1-G4

TX SITE: N26- 5- 9.0; W 80-14- 8.0
 ANT. TYPE: Andrew HMD16VO (OMNI)

TX SITE: N25-46-20.0; W 80-11-20.0
 ANT. TYPE: Andrew HMD16HW-W (@ 295.0T)

POLARIZATION: VERTICAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 3.00
 MAX ANT. GAIN(dBi): 14.00
 MAX EIRP (dBm): 57.99

POLARIZATION: HORIZONTAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 2.00
 MAX ANT. GAIN(dBi): 16.30
 MAX EIRP (dBm): 61.29

REC	SITE IDENTIFICATION	N LATITUDE	W LONGITUDE	REC	ANTENNA TYPE	AMSL-FT
R46	Continental Cable Co.	26-14-59.0	80- 7-28.0	MARK	P25A48	none
R47	Cresthaven Elementary	26-15-45.0	80- 6-49.0	MARK	P25A48G	none
R48	Norcrest Elementary	26-16-48.0	80- 6- 4.0	MARK	P25A48G	none
R49	Pompano Beach Middle	26-14- 9.0	80- 7-13.0	MARK	P25A24	none
R50	Cypress Elementary	26-13- 9.0	80- 7-45.0	MARK	P25A72G	none
R51	Wingate Oaks Center	26- 8-22.0	80-11-33.0	MARK	P25A48G	none
R52	Pompano Beach Elementary	26-14-18.0	80- 6-32.0	MARK	P25A48G	none
R53	Pompano Multi-Purpose Ctr.	26-14-11.0	80- 6-38.0	MARK	P25A24	none
R54	North Andrews Gardens Elem	26-11-47.0	80- 8-34.0	MARK	P25A24	none
R55	Martin L. King Elementary	26- 9-31.0	80-10-26.0	MARK	P25A48	none
R56	Oakland Park Elementary	26- 8-22.0	80-11-23.0	MARK	P25A48G	none
R57	Wilton Manors Elementary	26- 9-21.0	80-10-32.0	MARK	P25A72G	none
R58	Lauderdale Manors Elementa	26-12- 5.0	80- 8- 1.0	MARK	P25A72G	none
R59	Al (New School)	26-11-41.0	80- 8-17.0	MARK	P25A48G	none
R60	Sunland Park Elementary	26- 6-10.0	80-13-13.0	MARK	P25A24	none

REC SITE	FROM DESIRED				FROM UNDESIRED				RECEIVER		D/U RATIO	C* O D E	
	Dist mi	Azim deg T	EIRP dBmW	FSL dB	Dist mi	Azim deg T	EIRP dBmW	FSL dB	ANGLE deg	DISCR dB			
R46	Cont	13.2	31.3	58.0	127.6	33.2	6.9	61.1	135.5	24.4	-40.7	45.6	
R47	Cres	14.4	31.8	58.0	128.3	34.2	7.8	61.1	135.8	23.9	-41.9	46.4	
R48	Norc	15.8	31.8	58.0	129.1	35.5	8.8	61.0	136.1	23.0	-41.0	45.1	
R49	Pomp	12.6	34.6	58.0	127.1	32.3	7.6	61.1	135.3	27.0	-31.4	36.5	CON
R50	Cypr	11.3	35.6	58.0	126.2	31.1	6.8	61.1	135.0	28.8	-36.4	42.0	CON
R51	Wing	4.6	35.8	58.0	118.3	25.4	359.5	61.3	133.2	36.3	-42.0	53.6	
R52	Pomp	13.1	36.7	58.0	127.5	32.6	8.8	61.0	135.4	27.9	-42.0	46.9	
R53	Pomp	13.0	36.7	58.0	127.4	32.4	8.6	61.0	135.3	28.1	-31.6	36.6	CON
R54	Nort	9.6	37.0	58.0	124.7	29.4	5.6	61.1	134.5	31.4	-32.4	39.0	CON
R55	Mart	6.3	37.2	58.0	121.1	26.7	2.0	61.2	133.6	35.3	-41.4	50.6	
R56	Oakl	4.7	37.5	58.0	118.5	25.4	359.9	61.3	133.2	37.6	-42.0	53.4	
R57	Wilt	6.1	37.6	58.0	120.8	26.5	1.8	61.2	133.6	35.8	-42.0	51.5	
R58	Laud	10.2	38.4	58.0	125.3	29.8	6.6	61.1	134.6	31.8	-41.6	47.8	
R59	Al (	9.6	38.8	58.0	124.8	29.3	6.2	61.1	134.5	32.6	-42.0	48.5	
R60	Sunl	1.5	39.0	58.0	108.7	22.9	355.1	61.3	132.3	43.9	-35.2	55.6	

* - CODES AND NOTES PROVIDED ON EXHIBIT EE-CODES

DESIRED STATION:
 KTZ-22, Fort Lauderdale, FL (CP)
 G1-G4

UNDESIRED STATION:
 KTB-85, Miami, Fl (Mod.)
 G1-G4

 TX SITE: N26- 5- 9.0; W 80-14- 8.0
 ANT. TYPE: Andrew HMD16VO (OMNI)

 TX SITE: N25-46-20.0; W 80-11-20.0
 ANT. TYPE: Andrew HMD16HW-W (@ 295.0T)

POLARIZATION: VERTICAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 3.00
 MAX ANT. GAIN(dBi): 14.00
 MAX EIRP (dBm): 57.99

POLARIZATION: HORIZONTAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 2.00
 MAX ANT. GAIN(dBi): 16.30
 MAX EIRP (dBm): 61.29

REC SITE IDENTIFICATION	N LATITUDE	W LONGITUDE	REC ANTENNA TYPE	AMSL-FT
R61 Fort Lauderdale High	26-10-35.0	80- 9- 9.0	MARK P25A48	none
R62 Pine Ridge Center	26- 7-37.0	80-11-43.0	MARK P25A48G	none
R63 Bennett Elementary	26-12-50.0	80- 6-31.0	MARK P25A48G	none
R64 Sunrise Middle	26-11-31.0	80- 7-46.0	MARK P25A48	none
R65 North Fork Elementary	26- 8-17.0	80-10-34.0	MARK P25A48G	none
R66 Walker Elementary	26- 8-23.0	80-10-27.0	MARK P25A48G	none
R67 Westwood Heights Elementar	26- 7-40.0	80-11-16.0	MARK P25A48G	none
R68 Bayview Elementary	26-10- 4.0	80- 8- 7.0	MARK P25A48	none
R69 School Board Administratio	26- 9-26.0	80- 8-38.0	MARK P25A48	none
R70 Meadowbrook Elementary	26- 8-33.0	80- 9-42.0	MARK P25A48	none
R71 Stranahan High	26- 8-28.0	80- 9-14.0	MARK P25A48G	none
R72 Riverland Elementary	26- 8- 8.0	80- 9-36.0	MARK P25A48G	none
R73 Sunset Learning Center	26- 8-53.0	80- 8-23.0	MARK P25A72G	none
R74 Virginia Young Elementary	26- 6-18.0	80-12-11.0	MARK P25A24	none
R75 K.C. Wright Administration	26- 8-40.0	80- 7-26.0	MARK P25A72G	none

REC SITE	FROM DESIRED				FROM UNDESIRED				RECEIVER		D/U RATIO	C* O D E
	Dist mi	Azim deg T	EIRP dBmW	FSL dB	Dist mi	Azim deg T	EIRP dBmW	FSL dB	ANGLE deg	DISCR dB		
R61 Fort	8.1	39.5	58.0	123.3	28.0	4.6	61.2	134.1	34.9	-41.3	48.9	
R62 Pine	3.8	41.3	58.0	116.7	24.5	359.1	61.3	132.9	42.3	-42.0	54.9	
R63 Benn	11.8	41.6	58.0	126.6	30.9	9.3	61.0	134.9	32.4	-42.0	47.3	
R64 Sunr	9.8	41.9	58.0	125.0	29.2	7.2	61.1	134.4	34.7	-41.3	47.7	
R65 Nort	5.2	45.6	58.0	119.4	25.3	1.8	61.2	133.2	43.8	-42.0	52.5	
R66 Walk	5.3	45.6	58.0	119.6	25.4	2.1	61.2	133.2	43.6	-42.0	52.3	
R67 West	4.1	45.6	58.0	117.5	24.6	0.2	61.3	132.9	45.5	-42.0	54.2	
R68 Bayv	8.4	47.7	58.0	123.6	27.5	6.9	61.1	133.9	40.8	-41.7	48.9	
R69 Scho	7.5	49.0	58.0	122.6	26.7	6.0	61.1	133.7	43.1	-41.8	49.7	
R70 Mead	6.0	49.5	58.0	120.7	25.6	3.8	61.2	133.3	45.7	-42.0	51.3	
R71 Stra	6.3	53.0	58.0	121.2	25.6	4.9	61.2	133.3	48.1	-42.0	50.9	
R72 Rive	5.8	53.7	58.0	120.4	25.2	4.1	61.2	133.1	49.7	-42.0	51.5	
R73 Suns	7.3	54.1	58.0	122.4	26.1	6.7	61.1	133.5	47.4	-42.0	49.9	
R74 Virg	2.4	56.7	58.0	112.8	23.0	357.8	61.3	132.3	58.9	-38.0	54.3	
R75 K.C.	8.0	59.7	58.0	123.2	26.0	8.9	61.0	133.4	50.8	-42.0	49.2	

* - CODES AND NOTES PROVIDED ON EXHIBIT EE-CODES

DESIRED STATION:
 KTZ-22, Fort Lauderdale, FL (CP)
 G1-G4

UNDESIREd STATION:
 KTB-85, Miami, Fl (Mod.)
 G1-G4

TX SITE: N26- 5- 9.0; W 80-14- 8.0
 ANT. TYPE: Andrew HMD16VO (OMNI)

TX SITE: N25-46-20.0; W 80-11-20.0
 ANT. TYPE: Andrew HMD16HW-W (@ 295.0T)

POLARIZATION: VERTICAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 3.00
 MAX ANT. GAIN(dBi): 14.00
 MAX EIRP (dBm): 57.99

POLARIZATION: HORIZONTAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 2.00
 MAX ANT. GAIN(dBi): 16.30
 MAX EIRP (dBm): 61.29

REC	SITE IDENTIFICATION	N	LATITUDE	W	LONGITUDE	REC	ANTENNA TYPE	AMSL-FT
R76	Selkirk Communications Cab	26-	8-36.0	80-	7-23.0	MARK	P25A72G	none
R77	Vocational Center	26-	7-22.0	80-	9-44.0	MARK	P25A48G	none
R78	Stephen Foster Elementary	26-	7-33.0	80-	9-19.0	MARK	P25A48G	none
R79	Rock Island Elementary	26-	6-40.0	80-	10-55.0	MARK	P25A24	none
R80	Larkdale Elementary	26-	8-26.0	80-	7- 4.0	MARK	P25A72	none
R81	Everglades Middle	26-	7-16.0	80-	9-35.0	MARK	P25A72G	none
R82	Rickards Middle School	26-	5-45.0	80-	12-38.0		REF	none
R83	Northeast High	26-	6-46.0	80-	9-59.0	ANDREW	P4F-25	none
R84	South Plantation High	26-	6-32.0	80-	10-33.0	MARK	P25A48G	none
R85	Lloyd Estates Elementary	26-	6- 2.0	80-	11-51.0	ANDREW	P2F-25A	none
R86	Parkway Middle	26-	7-21.0	80-	7-59.0	MARK	P25A48G	none
R87	McNab Elementary	26-	6-51.0	80-	8-24.0	MARK	P25A48G	none
R88	Floranada Elementary	26-	6-47.0	80-	8-33.0	MARK	P25A48	none
R89	Dillard High	26-	6-43.0	80-	8-39.0	MARK	P25A48	none
R90	Dillard Elementary	26-	5-40.0	80-	11-32.0	MARK	P25A24	none

D/U RATIO STUDIES

REC SITE	FROM DESIRED				FROM UNDESIREd				RECEIVER		D/U RATIO	C* O D E
	Dist mi	Azim deg T	EIRP dBmW	FSL dB	Dist mi	Azim deg T	EIRP dBmW	FSL dB	ANGLE deg	DISCR dB		
R76 Selk	8.0	60.3	58.0	123.2	26.0	9.0	61.0	133.4	51.3	-42.0	49.2	
R77 Voca	5.2	60.7	58.0	119.5	24.3	3.9	61.2	132.8	56.8	-42.0	52.1	
R78 Step	5.7	61.0	58.0	120.2	24.5	4.9	61.2	132.9	56.1	-42.0	51.5	
R79 Rock	3.8	62.3	58.0	116.6	23.4	1.1	61.3	132.5	61.3	-38.0	50.6	
R80 Lark	8.2	62.6	58.0	123.4	25.8	9.8	60.9	133.4	52.8	-50.0	57.0	
R81 Ever	5.3	62.6	58.0	119.6	24.2	4.3	61.2	132.8	58.3	-42.0	52.0	
R82 Rick	1.7	66.0	58.0	109.7	22.4	356.6	61.3	132.1	69.4	-36.0	55.1	
R83 Nort	4.7	66.5	58.0	118.5	23.6	3.4	61.2	132.6	63.2	-35.0	45.8	
R84 Sout	4.0	66.7	58.0	117.2	23.3	2.0	61.2	132.4	64.8	-42.0	54.0	
R85 Lloy	2.6	66.7	58.0	113.3	22.7	358.7	61.3	132.2	68.1	-32.0	47.6	
R86 Park	6.8	68.3	58.0	121.8	24.4	8.1	61.0	132.9	60.1	-42.0	50.0	
R87 McNa	6.2	71.7	58.0	121.0	23.8	7.3	61.1	132.6	64.4	-42.0	50.5	
R88 Flor	6.1	71.9	58.0	120.8	23.7	7.0	61.1	132.6	65.0	-44.3	53.0	
R89 Dill	5.9	72.3	58.0	120.6	23.6	6.7	61.1	132.6	65.6	-44.4	53.3	
R90 Dill	2.8	77.5	58.0	113.9	22.3	359.5	61.3	132.1	78.1	-38.0	52.9	

* - CODES AND NOTES PROVIDED ON EXHIBIT EE-CODES

TABLE 3 (PAGE 7 OF 13)

DESIRED STATION:
 KTZ-22, Fort Lauderdale, FL (CP)
 G1-G4

UNDESIREd STATION:
 KTB-85, Miami, Fl (Mod.)
 G1-G4

TX SITE: N26- 5- 9.0; W 80-14- 8.0
 ANT. TYPE: Andrew HMD16VO (OMNI)

TX SITE: N25-46-20.0; W 80-11-20.0
 ANT. TYPE: Andrew HMD16HW-W (@ 295.0T)

POLARIZATION: VERTICAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 3.00
 MAX ANT. GAIN(dBi): 14.00
 MAX EIRP (dBm): 57.99

POLARIZATION: HORIZONTAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 2.00
 MAX ANT. GAIN(dBi): 16.30
 MAX EIRP (dBm): 61.29

REC SITE IDENTIFICATION	N LATITUDE	W LONGITUDE	REC ANTENNA TYPE	AMSL-FT
R91 Harbordale Elementary	26- 6- 9.0	80- 8- 2.0	MARK P25A48	none
R92 Crosissant Park Elementary	26- 5-53.0	80- 8-45.0	MARK P25A48G	none
R93 New River Middle	26- 5-28.0	80-11-13.0	ANDREW P2F-25A	none
R94 Rogers Middle	26- 5-24.0	80- 9- 2.0	MARK P25A48	none
R95 Edgewood Elementary	26- 5- 2.0	80- 9-30.0	MARK P25A72G	none
R96 McFatter Voc-Tech Center	26- 5- 6.0	80-13-50.0	REF	none
R97 Collins Elementary	26- 3-21.0	80- 9- 4.0	MARK P25A48G	none
R98 Dania Elementary	26- 2-47.0	80- 8-35.0	REF	none
R99 Olsen Middle	26- 2-11.0	80- 8-19.0	MARK P25A48G	none
R100 Bethune Elementary	26- 2-39.0	80- 8-17.0	REF	none
R101 Attucks Middle	26- 2-31.0	80- 9-11.0	MARK P25A24	none
R102 South Broward High	26- 1-41.0	80- 8-35.0	MARK P25A72G	none
R103 Hollywood Central Element	26- 0-26.0	80- 8-32.0	MARK P25A72G	none
R104 Oakridge Elementary	26- 1-25.0	80- 9-46.0	REF	none
R105 Hollywood Hills High	26- 2-43.0	80-11-52.0	MARK P25A48G	none

D/U RATIO STUDIES

REC SITE	FROM DESIRED				FROM UNDESIREd				RECEIVER		D/U RATIO	C* O D E
	Dist mi	Azim deg T	EIRP dBmW	FSL dB	Dist mi	Azim deg T	EIRP dBmW	FSL dB	ANGLE deg	DISCR dB		
R91 Harb	6.4	79.6	58.0	121.3	23.1	8.5	61.0	132.4	71.1	-45.1	53.2	
R92 Cros	5.6	81.4	58.0	120.1	22.7	6.8	61.1	132.2	74.6	-42.0	51.0	
R93 New	3.0	83.1	58.0	114.8	22.0	0.3	61.3	132.0	82.8	-32.0	45.9	
R94 Roge	5.3	86.9	58.0	119.6	22.1	6.2	61.1	132.0	80.7	-46.0	55.3	
R95 Edge	4.8	91.6	58.0	118.7	21.6	5.0	61.2	131.8	86.6	-42.0	51.9	
R96 McFa	0.3	100.5	58.0	95.1	21.8	353.2	61.2	131.9	107.3	-39.5	73.0	
R97 Coll	5.6	111.6	58.0	120.1	19.7	6.8	61.1	131.0	104.8	-42.0	49.8	
R98 Dani	6.4	115.4	58.0	121.2	19.1	8.5	61.0	130.8	106.9	-39.4	45.9	
R99 Olse	6.9	119.6	58.0	121.9	18.5	9.7	61.0	130.5	109.9	-42.0	47.6	
R100 Bet	6.7	115.4	58.0	121.6	19.0	9.5	61.0	130.7	105.9	-39.3	45.4	
R101 Att	5.9	120.6	58.0	120.6	18.8	6.8	61.1	130.6	113.8	-38.0	44.9	CON
R102 Sou	7.0	124.8	58.0	122.0	17.9	9.1	61.0	130.2	115.7	-42.0	47.2	
R103 Hol	7.9	133.1	58.0	123.1	16.5	10.1	60.9	129.5	123.0	-42.0	45.4	
R104 Oak	6.2	133.6	58.0	121.0	17.4	5.3	61.2	129.9	128.3	-42.3	48.1	
R105 Hol	3.7	140.1	58.0	116.4	18.9	358.3	61.3	130.6	141.8	-39.0	50.0	

* - CODES AND NOTES PROVIDED ON EXHIBIT EE-CODES

DESIRED STATION:
 KTZ-22, Fort Lauderdale, FL (CP)
 G1-G4

UNDESIREd STATION:
 KTB-85, Miami, Fl (Mod.)
 G1-G4

 TX SITE: N26- 5- 9.0; W 80-14- 8.0
 ANT. TYPE: Andrew HMD16VO (OMNI)

 TX SITE: N25-46-20.0; W 80-11-20.0
 ANT. TYPE: Andrew HMD16HW-W (@ 295.0T)

POLARIZATION: VERTICAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 3.00
 MAX ANT. GAIN(dBi): 14.00
 MAX EIRP (dBm): 57.99

POLARIZATION: HORIZONTAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 2.00
 MAX ANT. GAIN(dBi): 16.30
 MAX EIRP (dBm): 61.29

REC	SITE IDENTIFICATION	N	LATITUDE	W	LONGITUDE	REC	ANTENNA TYPE	AMSL-FT
R106	Hollywood Hills Elementar	26-	1-30.0	80-	10-50.0	MARK	P25A48	none
R107	Colbert Elementary	26-	0- 0.0	80-	9-41.0	MARK	P25A72G	none
R108	McNicol Middle	25-	59-54.0	80-	9-42.0	MARK	P25A72G	none
R109	Stirling Elementary	26-	2-37.0	80-	12- 2.0	MARK	P25A48G	none
R110	Hallandale Elementary	25-	59- 2.0	80-	9-10.0	MARK	P25A48G	none
R111	Hallandale High	25-	59-35.0	80-	9-43.0	MARK	P25A72G	none
R112	South Area Alternative Ct	25-	59-35.0	80-	9-53.0	MARK	P25A48	none
R113	Hallandale Adult Comm Ctr	25-	58-49.0	80-	9-47.0		REF	none
R114	Sheridan Hill Elementary	26-	1-50.0	80-	11-56.0	MARK	P25A48	none
R115	Orange Brook Elementary	26-	0-13.0	80-	11-20.0	MARK	P25A48	none
R116	Sheridan Voc-Tech Ctr.	26-	1-53.0	80-	12-29.0	MARK	P25A48	none
R117	Lake Forest Elementary	25-	58-44.0	80-	11-31.0	ANDREW	P4F-25	none
R118	Quest Center	26-	2-24.0	80-	13- 4.0	ANDREW	P2F-25A	none
R119	Watkins Elementary	25-	58-40.0	80-	11-51.0	ANDREW	P4F-25	none
R120	West Hollywood Elementary	26-	0-41.0	80-	12-52.0	MARK	P25A48	none

===== D/U RATIO STUDIES =====

REC SITE	FROM DESIRED				FROM UNDESIREd				RECEIVER		D/U RATIO	C* O D E	
	Dist mi	Azim deg T	EIRP dBmW	FSL dB	Dist mi	Azim deg T	EIRP dBmW	FSL dB	ANGLE deg	DISCR dB			
R106	Hol	5.4	140.9	58.0	119.8	17.5	1.7	61.2	130.0	139.2	-50.0	56.9	
R107	Col	7.5	142.2	58.0	122.6	15.8	6.2	61.1	129.1	136.0	-42.0	45.3	
R108	McN	7.6	142.8	58.0	122.7	15.7	6.2	61.1	129.0	136.6	-42.0	45.2	
R109	Sti	3.6	143.3	58.0	116.3	18.8	357.8	61.3	130.6	145.6	-39.0	50.0	
R110	Hal	8.7	143.9	58.0	123.9	14.8	8.7	61.0	128.5	135.2	-42.0	43.6	CON
R111	Hal	7.9	144.5	58.0	123.0	15.3	6.3	61.1	128.8	138.3	-42.0	44.7	CON
R112	Sou	7.8	145.5	58.0	122.9	15.3	5.6	61.1	128.8	139.9	-50.0	52.7	
R113	Hal	8.6	148.3	58.0	123.8	14.5	6.4	61.1	128.3	142.0	-44.2	45.6	
R114	She	4.4	149.2	58.0	118.1	17.9	358.0	61.3	130.1	151.2	-50.0	58.8	
R115	Ora	6.4	153.0	58.0	121.2	16.0	360.0	61.3	129.2	153.0	-50.0	54.7	
R116	She	4.1	155.6	58.0	117.4	17.9	356.2	61.3	130.2	159.4	-50.0	59.5	
R117	Lak	7.9	159.9	58.0	123.0	14.3	359.2	61.3	128.2	160.6	-36.0	37.9	CON
R118	Que	3.4	160.8	58.0	115.6	18.6	354.5	61.3	130.5	166.3	-32.0	43.6	CON
R119	Wat	7.8	162.4	58.0	123.0	14.2	357.8	61.3	128.2	164.6	-36.0	37.9	CON
R120	Wes	5.3	165.7	58.0	119.6	16.6	354.5	61.3	129.5	171.2	-40.6	47.3	

* - CODES AND NOTES PROVIDED ON EXHIBIT EE-CODES

DESIRED STATION:
 KTZ-22, Fort Lauderdale, FL (CP)
 G1-G4

UNDESIREd STATION:
 KTB-85, Miami, Fl (Mod.)
 G1-G4

TX SITE: N26- 5- 9.0; W 80-14- 8.0
 ANT. TYPE: Andrew HMD16VO (OMNI)

TX SITE: N25-46-20.0; W 80-11-20.0
 ANT. TYPE: Andrew HMD16HW-W (@ 295.0T)

POLARIZATION: VERTICAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 3.00
 MAX ANT. GAIN(dBi): 14.00
 MAX EIRP (dBm): 57.99

POLARIZATION: HORIZONTAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 2.00
 MAX ANT. GAIN(dBi): 16.30
 MAX EIRP (dBm): 61.29

REC SITE IDENTIFICATION	N LATITUDE	W LONGITUDE	REC ANTENNA TYPE	AMSL-FT
R121 McAuthur High	26- 0-38.0	80-13- 4.0	MARK P25A72G	none
R122 T.C.I. of South Florida	25-56-41.0	80-12-16.0	ANDREW P4F-25	none
R123 Nova Eisenhower Elementar	26- 4-22.0	80-13-59.0	MARK P25A24	none
R124 Pembroke Pine Elementary	26- 0- 6.0	80-13-19.0	MARK P25A48	none
R125 Apollo Middle	26- 1-10.0	80-13-32.0	REF	none
R126 Nova Blanche Forman Eleme	26- 4-27.0	80-14- 2.0	MARK P25A24	none
R127 Driftwood Middle	26- 2- 4.0	80-13-44.0	ANDREW P2F-25A	none
R128 Hollywood Park Elementary	26- 1- 1.0	80-13-39.0	MARK P25A48G	none
R129 Miramar Elementary	25-59-15.0	80-13-30.0	MARK P25A48G	none
R130 Sheridan Park Elementary	26- 1-47.0	80-13-48.0	MARK P25A24	none
R131 Annabel C. Perry Elementa	25-58-44.0	80-13-32.0	MARK P25A48G	none
R132 Henry D. Perry Middle	25-58-45.0	80-13-39.0	MARK P25A48G	none
R133 Boulevard Heights Element	26- 1- 3.0	80-14- 1.0	MARK P25A24	none
R134 Sunshine Elementary	25-59- 5.0	80-14-25.0	MARK P25A72G	none
R135 Fairway Elementary	25-58-31.0	80-15-14.0	MARK P25A72G	none

D/U RATIO STUDIES

REC SITE	FROM DESIRED				FROM UNDESIREd				RECEIVER		D/U RATIO	C* O D E
	Dist mi	Azim deg T	EIRP dBmW	FSL dB	Dist mi	Azim deg T	EIRP dBmW	FSL dB	ANGLE deg	DISCR dB		
R121 McA	5.3	168.0	58.0	119.6	16.6	353.8	61.2	129.5	174.3	-44.0	50.6	
R122 T.C	9.9	168.8	58.0	125.1	12.0	355.4	61.3	126.7	173.4	-36.0	34.3	CON
R123 Nov	0.9	170.2	58.0	104.3	20.9	352.5	61.2	131.5	177.7	-38.0	62.0	
R124 Pem	5.9	171.7	58.0	120.5	16.0	352.6	61.2	129.2	179.1	-37.0	42.5	CON
R125 Apo	4.6	172.3	58.0	118.4	17.2	352.4	61.2	129.8	179.9	-45.0	53.2	
R126 Nov	0.8	172.6	58.0	103.3	21.0	352.4	61.2	131.6	179.7	-38.0	63.0	
R127 Dri	3.6	173.3	58.0	116.2	18.3	352.2	61.2	130.4	178.8	-32.0	43.0	CON
R128 Hol	4.8	174.0	58.0	118.7	17.1	351.9	61.2	129.8	177.9	-39.0	46.8	
R129 Mir	6.8	174.5	58.0	121.8	15.0	351.4	61.2	128.7	176.9	-39.0	42.7	CON
R130 She	3.9	174.9	58.0	116.9	18.0	351.8	61.2	130.2	176.9	-38.0	48.1	
R131 Ann	7.4	175.2	58.0	122.5	14.5	350.9	61.2	128.3	175.7	-39.0	41.6	CON
R132 Hen	7.4	176.1	58.0	122.5	14.5	350.5	61.1	128.3	174.3	-39.0	41.7	CON
R133 Bou	4.7	178.5	58.0	118.6	17.2	350.7	61.2	129.8	172.1	-38.0	46.0	
R134 Sun	7.0	182.4	58.0	122.0	15.0	347.7	61.0	128.6	165.3	-44.0	47.6	
R135 Fai	7.7	188.5	58.0	122.9	14.6	343.9	60.8	128.4	155.4	-44.0	46.7	

* - CODES AND NOTES PROVIDED ON EXHIBIT EE-CODES

TABLE 3 (PAGE 10 OF 13)

DESIRED STATION:
 KTZ-22, Fort Lauderdale, FL (CP)
 G1-G4

UNDESIREd STATION:
 KTB-85, Miami, Fl (Mod.)
 G1-G4

 TX SITE: N26- 5- 9.0; W 80-14- 8.0
 ANT. TYPE: Andrew HMD16VO (OMNI)

 TX SITE: N25-46-20.0; W 80-11-20.0
 ANT. TYPE: Andrew HMD16HW-W (@ 295.0T)

POLARIZATION: VERTICAL
 OUTPUT POWER (dBm) : 46.99
 SYSTEM LOSSES (dB) : 3.00
 MAX ANT. GAIN(dBi) : 14.00
 MAX EIRP (dBm) : 57.99

POLARIZATION: HORIZONTAL
 OUTPUT POWER (dBm) : 46.99
 SYSTEM LOSSES (dB) : 2.00
 MAX ANT. GAIN(dBi) : 16.30
 MAX EIRP (dBm) : 61.29

REC SITE IDENTIFICATION	N	LATITUDE	W	LONGITUDE	REC ANTENNA TYPE	AMSL-FT
R136 Whispering Pines School	25-58-31.0		80-15-14.0		MARK P25A48G	none
R137 Nova High	26- 4-32.0		80-14-35.0		MARK P25A24	none
R138 Miramar High School	25-58-31.0		80-15-41.0		MARK P25A72G	none
R139 Pines High School	26- 0-32.0		80-15-52.0		MARK P25A24	none
R140 Sea Castle Elementary	25-59-13.0		80-16-28.0		MARK P25A72G	none
R141 Davie Elementary	26- 4-22.0		80-14-27.0		REF	none
R142 Pasasdena Lakes Elementar	26- 1-43.0		80-15-43.0		MARK P25A48G	none
R143 Palm Cove Elementary	26- 0- 5.0		80-18-13.0		MARK P25A72G	none
R144 Cooper City High	26- 2-42.0		80-16-25.0		MARK P25A24	none
R145 Pioneer Middle	26- 3- 3.0		80-16- 7.0		REF	none
R146 Pines Lakes Elementary	26- 0-51.0		80-18-17.0		MARK P25A72G	none
R147 Pembroke Lakes Elementary	26- 1-28.0		80-18-20.0		MARK P25A24	none
R148 Walter C. Young Res. Cent	26- 0-45.0		80-19-18.0		MARK P25A48G	none
R149 Embassy Creek Elementary	26- 1-47.0		80-18-20.0		MARK P25A48G	none
R150 Cooper City Elementary	26- 3-26.0		80-16-26.0		ANDREW P2F-25A	none

===== D/U RATIO STUDIES =====												
REC SITE	FROM DESIRED				FROM UNDESIREd				RECEIVER		D/U RATIO	C* O D E
	Dist mi	Azim deg T	EIRP dBmW	FSL dB	Dist mi	Azim deg T	EIRP dBmW	FSL dB	ANGLE deg	DISCR dB		
R136 Whi	7.7	188.5	58.0	122.9	14.6	343.9	60.8	128.4	155.4	-39.0	41.7	CON
R137 Nov	0.8	213.3	58.0	103.7	21.2	350.9	61.2	131.6	137.6	-38.0	62.8	
R138 Mir	7.8	191.9	58.0	123.0	14.7	342.2	60.7	128.5	150.3	-42.8	45.6	
R139 Pin	5.6	198.6	58.0	120.1	17.0	344.0	60.8	129.7	145.3	-38.0	44.8	CON
R140 Sea	7.2	199.5	58.0	122.3	15.8	340.3	60.6	129.1	140.8	-42.0	46.1	
R141 Dav	1.0	200.0	58.0	104.8	21.0	351.2	61.2	131.6	151.2	-45.0	68.6	
R142 Pas	4.3	202.5	58.0	117.7	18.3	345.6	60.9	130.4	143.1	-39.0	48.7	
R143 Pal	7.2	215.9	58.0	122.3	17.4	335.8	60.4	129.9	119.8	-42.0	47.3	
R144 Coo	3.7	219.9	58.0	116.4	19.6	344.4	60.9	130.9	124.4	-38.0	49.6	
R145 Pio	3.2	220.3	58.0	115.1	19.9	345.6	60.9	131.1	125.2	-41.9	54.9	
R146 Pin	6.6	220.9	58.0	121.4	18.2	336.7	60.4	130.3	115.8	-42.0	48.5	
R147 Pem	6.1	225.7	58.0	120.8	18.9	337.4	60.4	130.6	111.7	-38.0	45.4	
R148 Wal	7.4	226.6	58.0	122.5	18.5	333.6	60.3	130.5	107.0	-42.0	47.8	
R149 Emb	5.8	228.3	58.0	120.4	19.2	337.9	60.5	130.8	109.6	-42.0	49.9	
R150 Coo	3.1	230.3	58.0	114.9	20.4	345.0	60.9	131.3	114.7	-32.0	45.5	

* - CODES AND NOTES PROVIDED ON EXHIBIT EE-CODES

TABLE 3 (PAGE 11 OF 13)

DESIRED STATION:
 KTZ-22, Fort Lauderdale, FL (CP)
 G1-G4

UNDESIREd STATION:
 KTB-85, Miami, FL (Mod.)
 G1-G4

 TX SITE: N26- 5- 9.0; W 80-14- 8.0
 ANT. TYPE: Andrew HMD16VO (OMNI)

 TX SITE: N25-46-20.0; W 80-11-20.0
 ANT. TYPE: Andrew HMD16HW-W (@ 295.0T)

POLARIZATION: VERTICAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 3.00
 MAX ANT. GAIN(dBi): 14.00
 MAX EIRP (dBm): 57.99

POLARIZATION: HORIZONTAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 2.00
 MAX ANT. GAIN(dBi): 16.30
 MAX EIRP (dBm): 61.29

REC SITE IDENTIFICATION	N	LATITUDE	W	LONGITUDE	REC ANTENNA TYPE	AMSL-FT
R151 Griffin Elementary	26-	3-21.0	80-18-	11.0	MARK P25A24	none
R152 Silver Ridge Elementary	26-	4-30.0	80-16-	7.0	MARK P25A72G	none
R153 Hawkes Bluff Elementary	26-	2-43.0	80-21-	41.0	MARK P25A72G	none
R154 Country Isles Elementary	26-	5-45.0	80-22-	21.0	MARK P25A48G	none
R155 Tequesta Trace Middle	26-	6-16.0	80-23-	29.0	MARK P25A48G	none
R156 Gulf & Pacific Community	26-	6-11.0	80-21-	49.0	REF	none
R157 Indian Trace Elementary	26-	6-54.0	80-23-	31.0	MARK P25A72G	none
R158 Western High	26-	6-17.0	80-19-	45.0	MARK P25A24	none
R159 Flamingo Elementary	26-	6-17.0	80-19-	32.0	MARK P25A24	none
R160 Sawgrass Elementary	26-	7-54.0	80-19-	9.0	MARK P25A48G	none
R161 Central Park Elementary	26-	7-47.0	80-17-	1.0	MARK P25A72G	none
R162 Nob Hill Elementary	26-	9- 3.0	80-17-	12.0	REF	none
R163 Sandpiper Elementary	26-	10-18.0	80-17-	44.0	MARK P25A48G	none
R164 Welleby Elementary	26-	10- 3.0	80-17-	2.0	MARK P25A48G	none
R165 Blair Middle	26-	9- 3.0	80-16-	15.0	REF	none

==== D/U RATIO STUDIES =====

REC SITE	FROM DESIRED				FROM UNDESIREd				RECEIVER		D/U RATIO	C* O D E
	Dist mi	Azim deg T	EIRP dBmW	FSL dB	Dist mi	Azim deg T	EIRP dBmW	FSL dB	ANGLE deg	DISCR dB		
R151 Gri	4.7	243.7	58.0	118.5	20.8	340.1	60.6	131.5	96.4	-38.0	48.4	
R152 Sil	2.2	250.0	58.0	111.9	21.5	346.7	61.0	131.8	96.7	-42.0	58.9	
R153 Haw	8.3	250.3	58.0	123.5	21.7	330.4	60.1	131.8	80.1	-42.0	48.2	
R154 Cou	8.5	274.7	58.0	123.7	25.1	333.0	60.2	133.1	58.3	-42.0	49.1	
R155 Teq	9.8	277.6	58.0	124.9	26.2	331.3	60.2	133.5	53.7	-42.0	48.4	
R156 Gul	8.0	278.5	58.0	123.2	25.3	334.6	60.3	133.2	56.1	-36.0	43.7	CON
R157 Ind	9.9	281.8	58.0	125.0	26.8	332.0	60.2	133.7	50.2	-42.0	48.4	
R158 Wes	6.0	282.7	58.0	120.6	24.6	339.3	60.5	132.9	56.6	-38.0	47.8	
R159 Fla	5.7	283.2	58.0	120.3	24.5	339.7	60.6	132.9	56.6	-38.0	48.0	
R160 Saw	6.1	301.4	58.0	120.8	26.1	342.0	60.7	133.4	40.5	-42.0	51.9	
R161 Cen	4.3	315.5	58.0	117.7	25.4	346.6	61.0	133.2	31.1	-40.4	53.0	
R162 Nob	5.5	324.8	58.0	119.9	26.8	346.9	61.0	133.7	22.1	-36.0	46.8	
R163 San	7.0	327.9	58.0	122.0	28.4	346.5	61.0	134.2	18.6	-38.0	47.2	
R164 Wel	6.4	332.0	58.0	121.2	27.9	347.8	61.0	134.0	15.8	-38.0	47.8	
R165 Bla	5.0	334.0	58.0	119.1	26.6	349.0	61.1	133.6	15.0	-35.9	47.3	

* - CODES AND NOTES PROVIDED ON EXHIBIT EE-CODES

TABLE 3 (PAGE 12 OF 13)

DESIRED STATION:
 KTZ-22, Fort Lauderdale, FL (CP)
 G1-G4

UNDESIRED STATION:
 KTB-85, Miami, Fl (Mod.)
 G1-G4

 TX SITE: N26- 5- 9.0; W 80-14- 8.0
 ANT. TYPE: Andrew HMD16VO (OMNI)

 TX SITE: N25-46-20.0; W 80-11-20.0
 ANT. TYPE: Andrew HMD16HW-W (@ 295.0T)

POLARIZATION: VERTICAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 3.00
 MAX ANT. GAIN(dBi): 14.00
 MAX EIRP (dBm): 57.99

POLARIZATION: HORIZONTAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 2.00
 MAX ANT. GAIN(dBi): 16.30
 MAX EIRP (dBm): 61.29

REC SITE IDENTIFICATION	N LATITUDE	W LONGITUDE	REC ANTENNA TYPE	AMSL-FT
R166 Horizon Elementary	26- 9- 4.0	80-16- 9.0	MARK P25A24	none
R167 Westpine Middle	26-11-11.0	80-16-20.0	MARK P25A48G	none
R168 Banyan Elementary	26-11- 7.0	80-16- 9.0	REF	none
R169 Westchester Elementary	26-15-35.0	80-17-26.0	ANDREW P4F-25	none
R170 Riverside Elementary	26-13-57.0	80-16-48.0	MARK P25A48G	none
R171 Coral Springs Elementary	26-16-23.0	80-17-27.0	MARK P25A48	none
R172 Cable TV of Coral Springs	26-16-35.0	80-17-29.0	REF	none
R173 Piper High	26-10-36.0	80-15-26.0	MARK P25A48G	none
R174 Travella High	26-13-55.0	80-16-11.0	MARK P25A24	none
R175 Mirror Lake Elementary	26- 8-25.0	80-14-41.0	MARK P25A24	none
R176 Coral Springs Middle	26-17-10.0	80-15-53.0	MARK P25A72G	none
R177 Country Hills Elementary	26-17-50.0	80-15-54.0	MARK P25A48G	none
R178 Stoneman Douglas High	26-18-18.0	80-15-58.0	MARK P25A48G	none
R179 Tamarac Elementary	26-12-58.0	80-15-13.0	MARK P25A48	none
R180 Maplewood Elementary	26-14-39.0	80-15-25.0	MARK P25A24	none

REC SITE	FROM DESIRED				FROM UNDESIRED				RECEIVER		D/U RATIO	C* O D E
	Dist mi	Azim deg T	EIRP dBmW	FSL dB	Dist mi	Azim deg T	EIRP dBmW	FSL dB	ANGLE deg	DISCR dB		
R166 Hor	5.0	335.2	58.0	119.0	26.6	349.2	61.1	133.6	14.0	-30.0	41.5	CON
R167 Wes	7.3	341.9	58.0	122.4	29.1	349.8	61.1	134.4	7.9	-33.0	41.9	CON
R168 Ban	7.2	343.1	58.0	122.2	29.0	350.1	61.1	134.3	7.0	-22.7	31.6	CON
R169 Wes	12.5	344.2	58.0	127.0	34.3	349.4	61.1	135.8	5.2	-30.0	35.7	CON
R170 Riv	10.5	344.8	58.0	125.5	32.3	349.9	61.1	135.3	5.1	-33.0	39.6	CON
R171 Cor	13.4	345.2	58.0	127.6	35.2	349.7	61.1	136.0	4.5	-30.0	35.3	CON
R172 Cab	13.6	345.3	58.0	127.8	35.4	349.7	61.1	136.1	4.4	-20.7	25.9	CON
R173 Pip	6.4	347.9	58.0	121.3	28.3	351.4	61.2	134.1	3.4	-33.0	42.7	CON
R174 Tra	10.3	348.2	58.0	125.4	32.1	351.0	61.2	135.3	2.9	-25.0	31.7	CON
R175 Mir	3.8	351.4	58.0	116.7	25.7	352.2	61.2	133.3	0.8	-24.0	37.4	CON
R176 Cor	13.9	352.6	58.0	128.0	35.8	352.5	61.2	136.2	0.1	-35.0	40.0	CON
R177 Cou	14.7	352.9	58.0	128.5	36.6	352.6	61.2	136.4	0.3	-33.0	37.7	CON
R178 Sto	15.3	352.9	58.0	128.8	37.1	352.6	61.2	136.5	0.3	-33.0	37.5	CON
R179 Tam	9.1	352.9	58.0	124.3	30.9	352.5	61.2	134.9	0.4	-30.0	37.4	CON
R180 Map	11.0	353.1	58.0	126.0	32.9	352.6	61.2	135.4	0.5	-24.0	30.3	CON

* - CODES AND NOTES PROVIDED ON EXHIBIT EE-CODES

DESIRED STATION:
 KTZ-22, Fort Lauderdale, FL (CP)
 G1-G4

UNDESIRED STATION:
 KTB-85, Miami, Fl (Mod.)
 G1-G4

 TX SITE: N26- 5- 9.0; W 80-14- 8.0
 ANT. TYPE: Andrew HMD16VO (OMNI)

 TX SITE: N25-46-20.0; W 80-11-20.0
 ANT. TYPE: Andrew HMD16HW-W (@ 295.0T)

POLARIZATION: VERTICAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 3.00
 MAX ANT. GAIN(dBi): 14.00
 MAX EIRP (dBm): 57.99

POLARIZATION: HORIZONTAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 2.00
 MAX ANT. GAIN(dBi): 16.30
 MAX EIRP (dBm): 61.29

REC SITE IDENTIFICATION	N LATITUDE	W LONGITUDE	REC ANTENNA TYPE	AMSL-FT
R181 Peters Elementary	26- 8- 4.0	80-14-24.0	MARK P25A48G	none
R182 Plantataion High	26- 8-41.0	80-14-27.0	MARK P25A48	none
R183 Village Elementary	26- 9- 9.0	80-14-25.0	MARK P25A48	none
R184 Plantation Middle	26- 8-10.0	80-14-19.0	REF	none
R185 Ramblewood Elementary	26-14-51.0	80-14-41.0	ANDREW P4F-25	none
R186 Forest Hills Elementary	26-16- 5.0	80-14-27.0	MARK P25A72G	none
R187 Pinewood Elementary	26-12-28.0	80-14-20.0	MARK P25A24	none
R188 Ramblewood Middle	26-14-10.0	80-14-21.0	ANDREW P2F-25A	none
R189 Coral Park Middle	26-17-59.0	80-14-14.0	MARK P25A48G	none

REC SITE	FROM DESIRED				FROM UNDESIRED				RECEIVER		D/U RATIO	C* O D E
	Dist mi	Azim deg T	EIRP dBmW	FSL dB	Dist mi	Azim deg T	EIRP dBmW	FSL dB	ANGLE deg	DISCR dB		
R181 Pet	3.4	355.3	58.0	115.7	25.2	352.8	61.2	133.1	2.5	-33.0	47.3	
R182 Pla	4.1	355.4	58.0	117.3	25.9	352.9	61.2	133.4	2.6	-30.0	42.8	CON
R183 Vil	4.6	356.4	58.0	118.4	26.5	353.1	61.2	133.6	3.3	-30.0	41.9	CON
R184 Pla	3.5	356.9	58.0	115.9	25.3	353.0	61.2	133.2	3.9	-20.5	34.5	CON
R185 Ram	11.2	357.1	58.0	126.1	33.0	354.0	61.3	135.5	3.1	-30.0	36.1	CON
R186 For	12.6	358.5	58.0	127.1	34.4	354.6	61.3	135.8	3.9	-35.0	40.5	CON
R187 Pin	8.4	358.6	58.0	123.6	30.2	354.1	61.3	134.7	4.5	-27.0	34.8	CON
R188 Ram	10.4	358.8	58.0	125.4	32.2	354.4	61.3	135.3	4.3	-27.4	34.0	CON
R189 Cor	14.8	359.6	58.0	128.5	36.6	355.3	61.3	136.4	4.3	-33.0	37.6	CON

* - CODES AND NOTES PROVIDED ON EXHIBIT EE-CODES

TABLE 4.MARK.UPGRADES (PAGE 1 OF 1)

DESIRED STATION:
 KTZ-22, Fort Lauderdale, FL (CP)
 G1-G4

UNDESIRED STATION:
 KTB-85, Miami, Fl (Mod.)
 G1-G4

 TX SITE: N26- 5- 9.0; W 80-14- 8.0
 ANT. TYPE: Andrew HMD16VO (OMNI)

 TX SITE: N25-46-20.0; W 80-11-20.0
 ANT. TYPE: Andrew HMD16HW-W (@ 295.0T)

POLARIZATION: VERTICAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 3.00
 MAX ANT. GAIN(dBi): 14.00
 MAX EIRP (dBm): 57.99

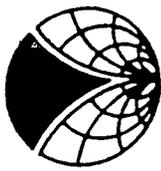
POLARIZATION: HORIZONTAL
 OUTPUT POWER (dBm): 46.99
 SYSTEM LOSSES (dB): 2.00
 MAX ANT. GAIN(dBi): 16.30
 MAX EIRP (dBm): 61.29

REC SITE IDENTIFICATION	N LATITUDE	W LONGITUDE	REC ANTENNA TYPE	AMSL-FT
R1 Telecable of Broward	26-18-40.0	80-11-37.0	MARK P25A96G	none
R22 Quiet Water Elementary	26-19- 1.0	80- 9-23.0	MARK P25A96G	none
R29 Deerfield Beach High	26-17-45.0	80- 7- 5.0	MARK P25A96G	none
R32 Tedder Elementary	26-16-44.0	80- 7-27.0	MARK P25A96G	none
R33 Deerfield Park Elementary	26-18-31.0	80- 6-24.0	MARK P25A96G	none
R37 Deerfield Beach Elementary	26-19-10.0	80- 5-44.0	MARK P25A72	none
R38 Park Ridge Elementary	26-17-44.0	80- 6-31.0	MARK P25A72	none
R40 Deefield Beach Middle	26-18-29.0	80- 8-52.0	MARK P25A96G	none
R41 Crystal Lake Middle	26-16-21.0	80- 7- 7.0	MARK P25A72	none

===== D/U RATIO STUDIES =====

REC SITE	FROM DESIRED				FROM UNDESIRED				RECEIVER		D/U RATIO	C* O D E
	Dist mi	Azim deg T	EIRP dBmW	FSL dB	Dist mi	Azim deg T	EIRP dBmW	FSL dB	ANGLE deg	DISCR dB		
R1 Tele	15.8	9.5	58.0	129.1	37.2	359.5	61.3	136.5	9.9	-43.0	47.1	
R22 Quie	16.7	17.1	58.0	129.6	37.7	3.1	61.2	136.6	14.0	-44.0	47.8	
R29 Deer	16.2	26.6	58.0	129.3	36.4	6.9	61.1	136.3	19.7	-44.0	47.9	
R32 Tedd	15.0	27.3	58.0	128.6	35.2	6.5	61.1	136.1	20.8	-44.0	48.3	
R33 Deer	17.3	27.4	58.0	129.9	37.4	7.8	61.1	136.6	19.6	-44.0	47.6	
R37 Deer	18.3	28.2	58.0	130.4	38.2	8.7	61.0	136.8	19.6	-43.6	46.9	
R38 Park	16.5	28.5	58.0	129.5	36.5	7.8	61.1	136.4	20.7	-44.4	48.3	
R40 Deef	16.3	19.5	58.0	129.3	37.1	3.9	61.2	136.5	15.6	-44.0	47.9	
R41 Crys	14.8	29.3	58.0	128.5	34.8	7.2	61.1	136.0	22.2	-45.6	49.9	

* - CODES AND NOTES PROVIDED ON EXHIBIT EE-CODES



Also P25A24

Radiation Systems, Inc. Mark Antennas Division

LINEAR PATTERN ENVELOPE

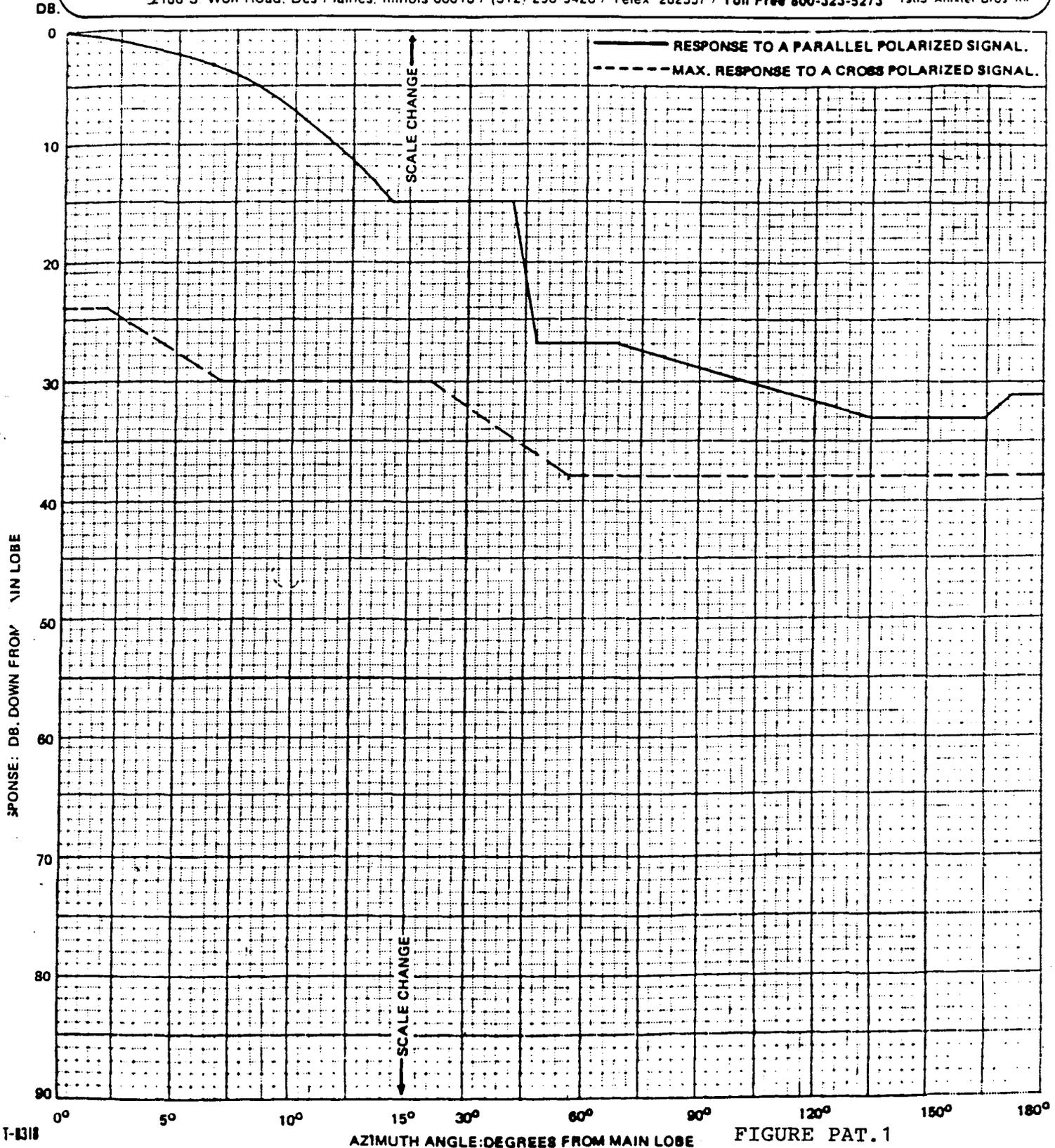
MODEL: P-2524S ISSUE- 2 DATE: 2/8/84
FREQUENCY BAND: 2500-2700 MHz
GAIN: 21.8 dBi at 2.6 GHz - HPBW: 12.8 DEGREES
DESCRIPTION: 2 Foot Diameter - Solid Parabolic
Microwave Antenna

MEETS FCC CATEGORY -PART NO. FCC NO.

*Letters following model number do not affect pattern

MANUFACTURERS OF A FULL LINE OF POINT-TO-POINT ANTENNAS: SATELLITE · MICROWAVE · TWO-WAY

2180 S. Wolf Road, Des Plaines, Illinois 60018 / (312) 298-9420 / Telex 282557 / Toll Free 800-323-5273 1983 Anster Bros. Inc.





ANDREV

RPE 1306

Edward J. (Oster)
Approved

13 October 1981

RADIATION PATTERN ENVELOPE

ANTENNA TYPE NUMBER P4F-250 (also 49002)
Similar to 39721 (discontinued)

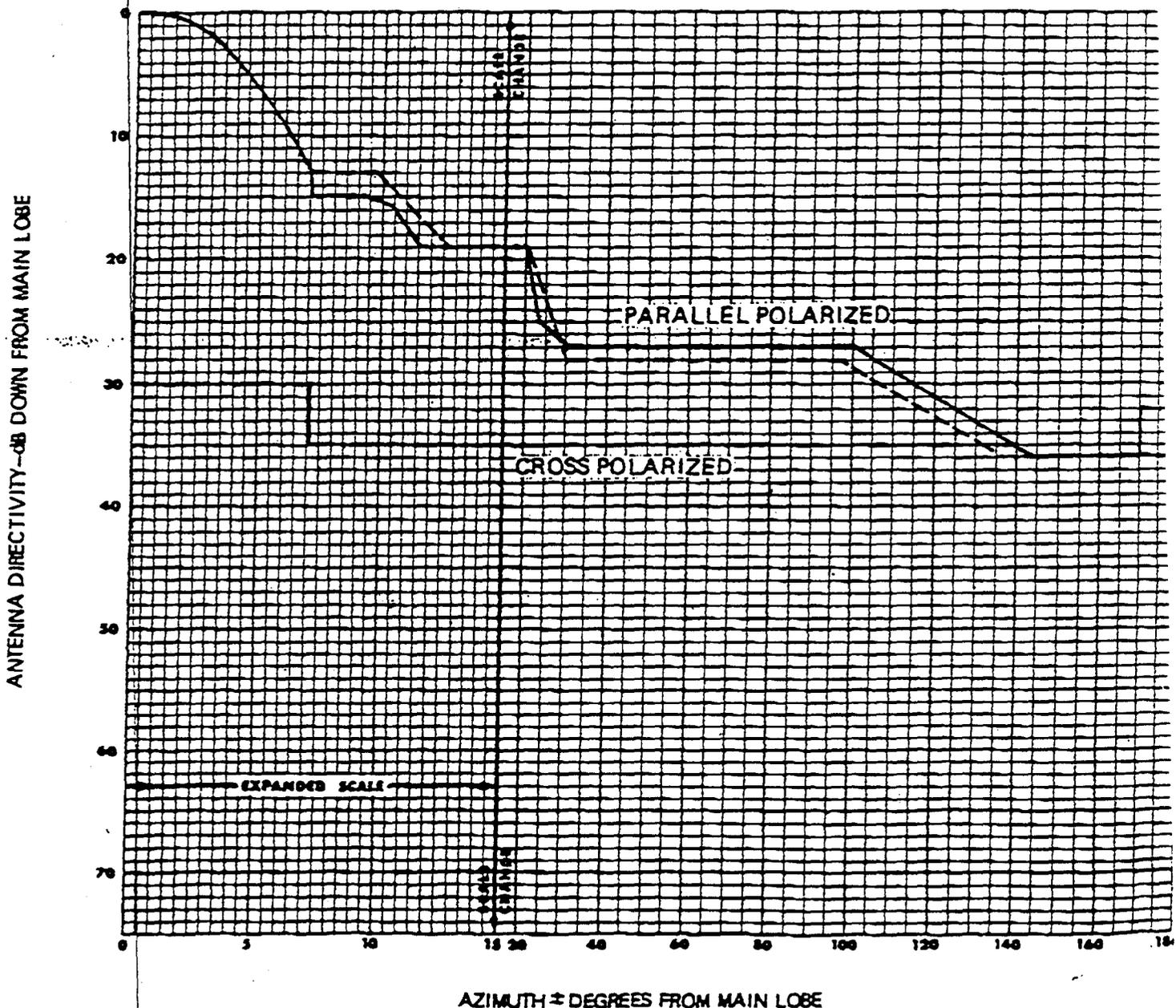
4 FOOT ANTENNA
2.48 - 2.7 GHz
PLANE POLARIZED

————— Envelope for a Horizontally Polarized Antenna
- - - - - Envelope for a Vertically Polarized Antenna

Gain: 27.9 ± 0.2 dBi at 2.6 GHz
27.3 (Model 39721)

See Andrev Bulletin 1032, "Radiation Pattern Envelope for further information.

FIGURE PAT. 2



Andrew Corporation
10600 W. 183rd Street
Orland Park, IL,
U.S.A. 60462

Andrew Antenna Company Ltd.
606 Beach Street
Whitby, Ontario
Canada L1N 3S2

Andrew Antenna Systems
Lechally, Fife
Great Britain KY5 9HG

Andrew Antennas
171 Henry Street
Reservoir, Victoria
Australia 3073

Andrew Antenas Limitada
Caixa Postal 600
18100 Sorocaba
São Paulo, Brasil



Radiation Pattern Envelope

FIGURE PAT. 3

Antenna Type Number P2F-25A, 49001, 49001A
 2 Foot Antenna 2.5 to 2.7 GHz Plane Polarized
 Gain: 21.7 ± 0.2 dBi at 2.6 GHz

———— Envelope for a Horizontally Polarized Antenna (HH, HV)
 - - - - Envelope for a Vertically Polarized Antenna (VV, VH)

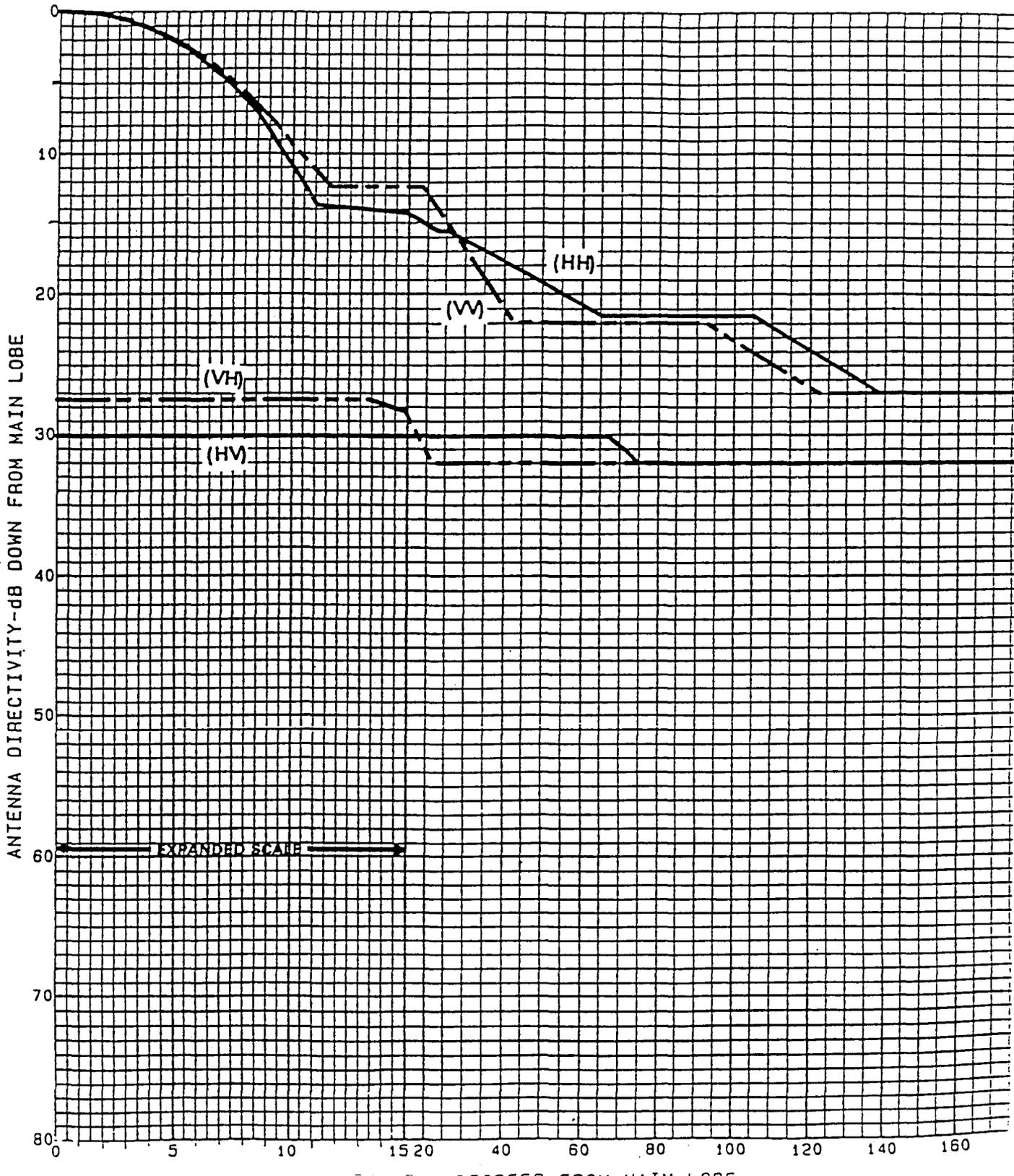
For further information, ask for Andrew Bulletin 1032, "Radiation Pattern Envelopes."
 ANDREW CORPORATION



RPE 1300

J. E. Charlton
 Approved

9 April 1986



Antenna Model - P-25A48G (*)

Description: 4 Foot Diameter Grid
Parabolic Microwave Antenna -
Plane Polarized

RS1-MARK Antennas Division
1757 S. Winthrop
Des Plaines, IL 60018

DATE: 07/25/84

Frequency Band: 2480-2700 MHz
Gain: 28.0 dBi at 2.6 GHz
HPBW: 6 Deg

(*) Letters following model numbers do not affect pattern

Note: Feed is inserted normal.

FCC Category:

FCC Part No.

FCC NO. (NO ID NUMBER)

— — — — — HH, HV Horizontal Polarization
- - - - - VV, VH Vertical Polarization



FIGURE PAT.4

Antenna Model - P-25A4B (*)

Description: 4 Foot Diameter Solid
Parabolic Microwave Antenna -
Plane Polarized

COMSAT-RSI Mark Antennas
1757 S. Winthrop
Des Plaines, IL 60018

DATE : 07-26-64

Frequency Band: 2500-2700 MHz
Gain: 28.5 dB_s at 2.6 GHz
HPBW: 6.25 Deg

(*) Letters following model numbers do not affect pattern

NSMA Antenna Code: 20077M

Note: Feed is inserted normal.

FCC Part No. 94

FCC Category B

FCC NO



FIGURE PAT.5

Antenna Model - P-25A726(*)

Description: 5 Foot Diameter Grid
Parabolic Microwave Antenna -
Plane Polarized

RSi-MARK Antennas Division

2180 S. Wolf Rd.
Des Plaines, IL 60018

DATE : 06-13-89

Frequency Band: 2500-2700 MHz
Gain: 31.4 dBi at 2500-2700 GHz
HPBW: 4.2 Deg

Note: Feed is inserted normal.

FCC Category:

FCC Part No.

FCC NO. (NO IO NUMBER)

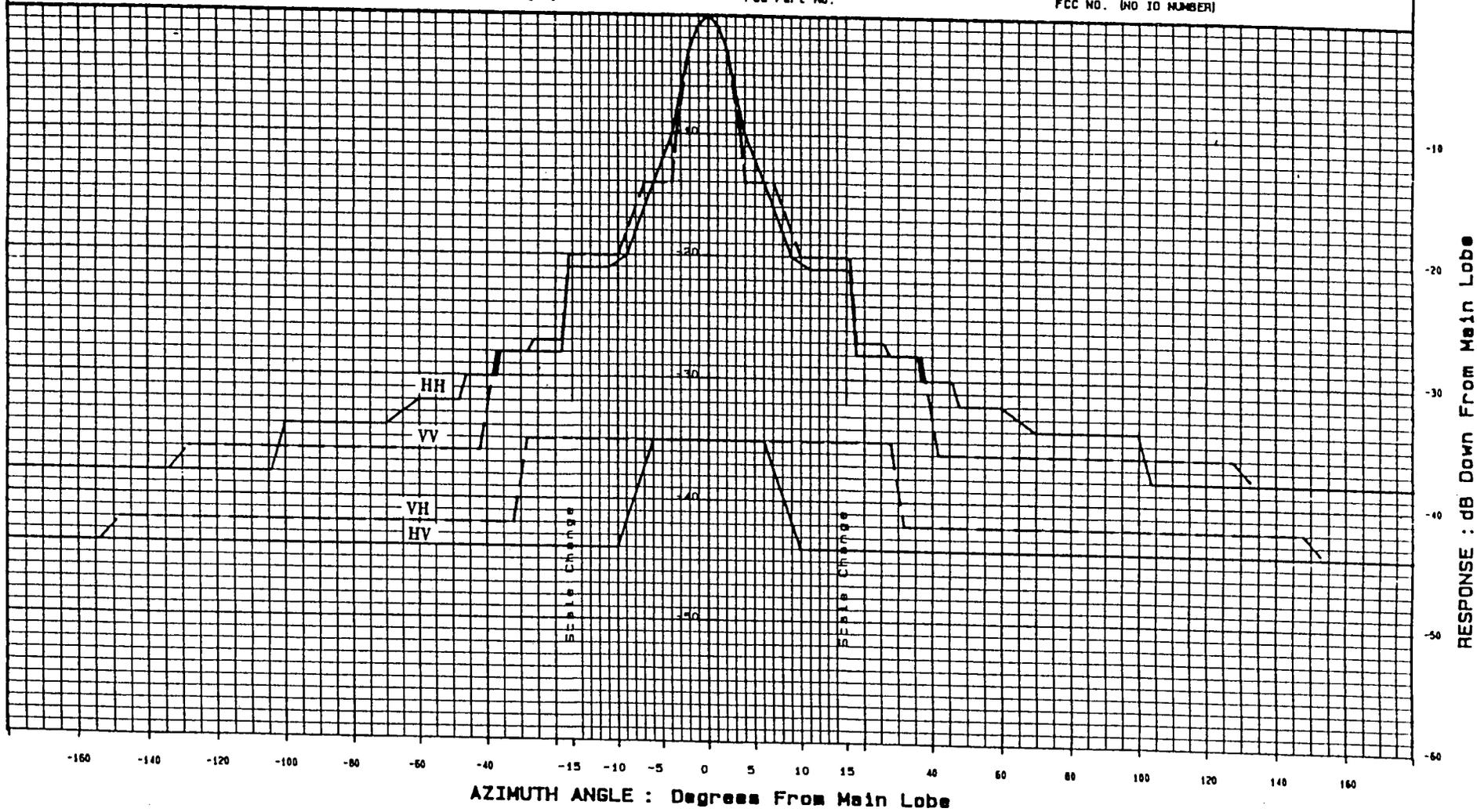


FIGURE PAT.6

Antenna Model - P-25A72 (*)

Description: 6 Foot Diameter Solid
Parabolic Microwave Antenna -
Plane Polarized

RSi-MARK Antennas Division

2180 S. Wolf Rd.
Des Plaines, IL 60018

DATE : 09/30/86

Frequency Band: 2500-2700 MHz
Gain: 32.5 dB at 2.6 GHz
HPBW: 4.0 Deg

Note: Feed is inserted normal.

FCC Category: B

FCC Part No. 94

FCC NO. (NO ID NUMBER)

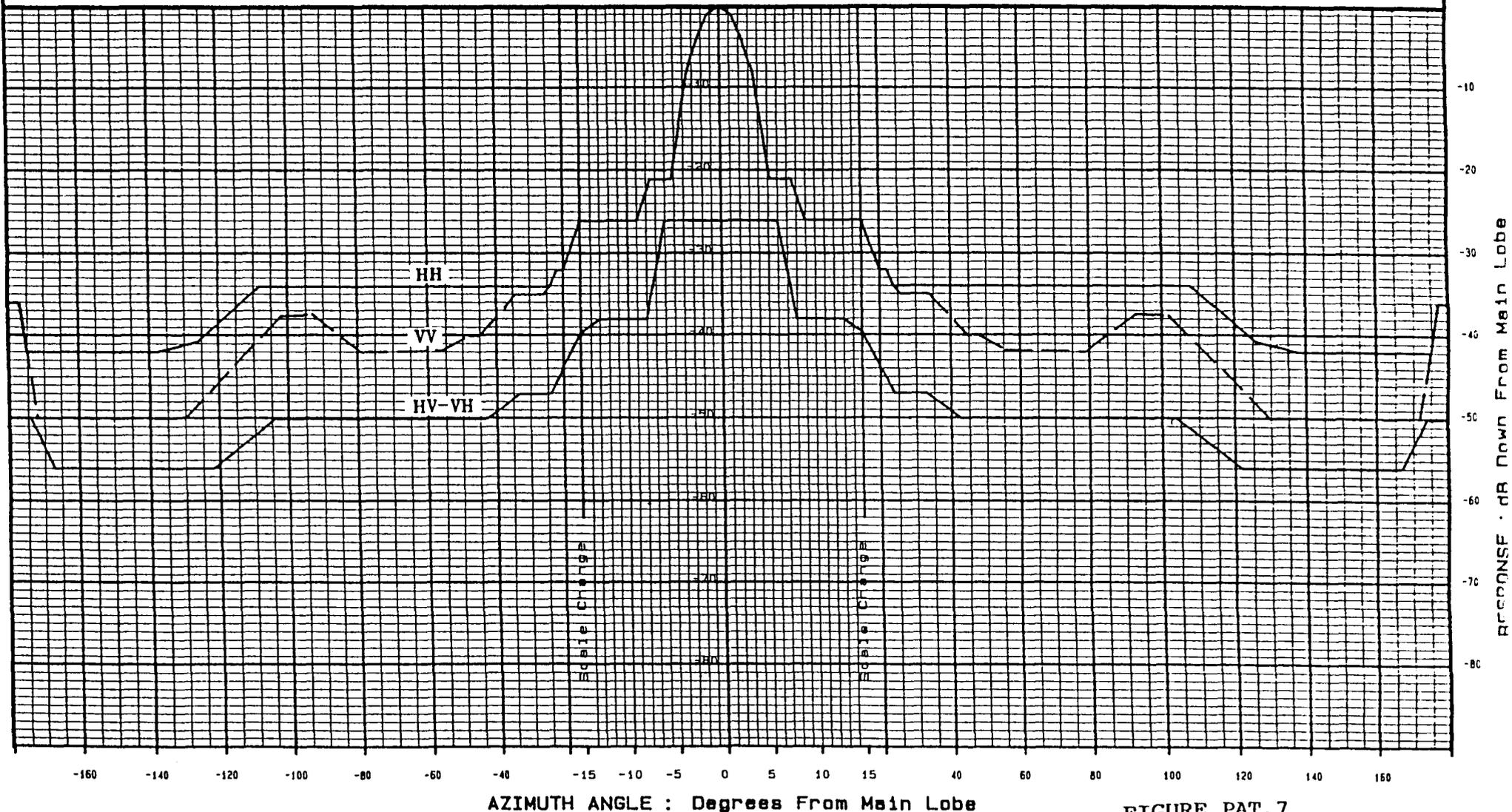


FIGURE PAT.7

Antenna Model - P-25A966 (M)

Description: 6 Foot Diameter Grid
Parabolic Microwave Antenna -
Plane Polarized

RSI-MARK Antennas Division
1757 S. Winthrop
Des Plaines, IL 60018

DATE : 04/01/93

Frequency Band: 2480-2700 MHz
Gain: 33.9 dBi at 2.6 GHz
HPBW: 3.3 Deg

Note: Feed is inserted normal.

(*) Letters following model numbers do not affect pattern

FCC Category:

FCC Part No.

FCC NO. AND ID NUMBER

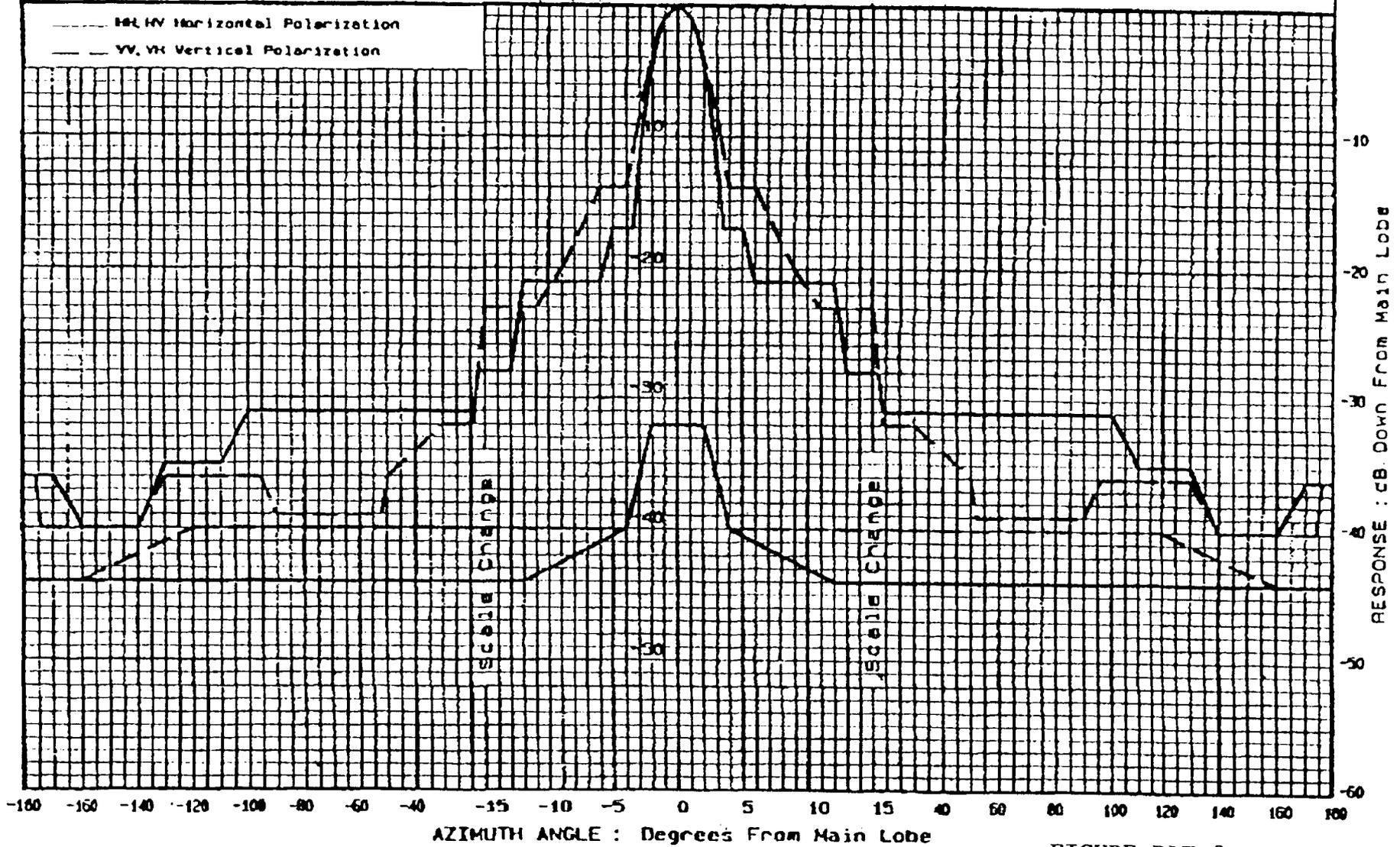


FIGURE PAT.8

ENGINEERING REPORT

DELAWDER COMMUNICATIONS, INC.

(703) 658-5390

Miami, Florida (KTB-85)
Support of Response to Petition to Dismiss or Deny

I, Darryl K. DeLawder, declare and state as follows:

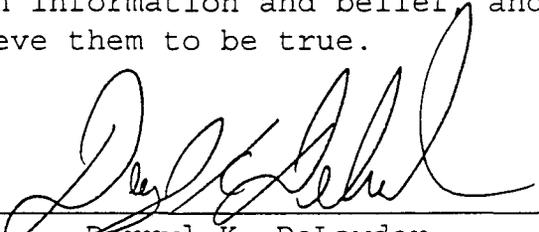
That I have received a Bachelor of Science degree in electrical engineering from Villanova University;

That I have either prepared or directly supervised the preparation of all technical information contained in this Engineering Exhibit;

That the facts stated in this Engineering Statement are true of my own knowledge, except as to such statements as are herein stated to be on information and belief, and as to such statements I believe them to be true.

02-20-97

Date


Barryl K. DeLawder

CERTIFICATE OF SERVICE

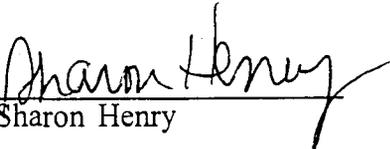
I, Sharon Henry, a secretary with the law firm of Paul, Hastings, Janofsky & Walker LLP, hereby certify that I have on this 21st day of February, 1997, caused a true and correct copy of the foregoing Consolidated Opposition to Petitions to Dismiss or Deny to be sent by first-class United States mail, postage prepaid, to the following:

* Clay C. Pendarvis
Acting Chief
Distribution Services Branch
Video Services Division
Mass Media Bureau
Federal Communications Commission
1919 M Street, N.W., Room 702
Washington, D.C. 20554

James S. Blitz, Esq.
Mark Van Bergh, Esq.
Roberts & Eckard, P.C.
1150 Connecticut Avenue, N.W.
Suite 1100
Washington, D.C. 20036

William D. Wallace, Esq.
Crowell & Moring LLP
1001 Pennsylvania Avenue, N.W.
Washington, D.C. 20554

* Hand delivery.


Sharon Henry

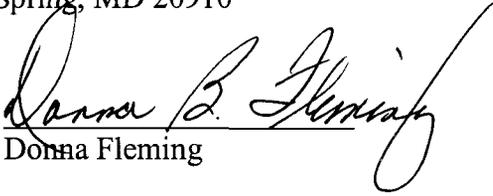
CERTIFICATE OF SERVICE

I, Donna Fleming of Gardner Carton & Douglas LLP hereby certify that I caused a true copy of the foregoing Petition for Reconsideration to be sent to the following person this 21st day of October, 2004, by U.S. First Class Mail, postage pre-paid:

Paul H. Brown, Esq.
Wood Maines & Brown, Chartered
1827 Jefferson Place, N.W.
Washington, D.C. 20036

Jennifer Richter, Esq.
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Donna Fleming