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ENGINEERING EXHIBIT EE-1:

**WATERS & BROCK COMMUNICATIONS, INC.
DIGITAL CLASS-A TELEVISION STATION**

WARZ-DC

**DIGITAL CHANNEL 34
MODIFICATION OF CONSTRUCTION PERMIT**

MARCH 2010

**FCC FACILITY NUMBER
71089**

**ENGINEERING EXHIBIT
IN SUPPORT OF
AN APPLICATION FOR AUTHORITY TO CONSTRUCT
OR MAKE CHANGES IN A
CLASS A TELEVISION BROADCAST STATION**

WARZ-DC

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TABLE OF CONTENTS:

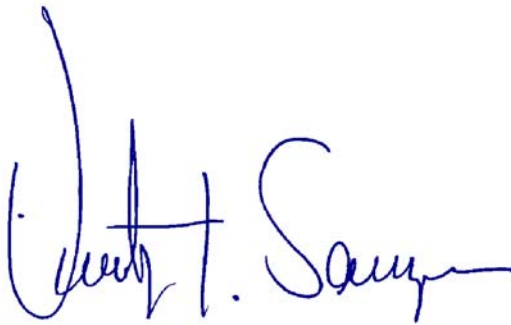
1. F.C.C. Form 301-CA, Section III (engineering - digital)
2. F.C.C. Form 301-CA, Section III (certification)
3. Declaration of Engineer
4. Narrative Statement
5. Figure 1, Predicted Coverage Contours
6. Figure 2, Directional Antenna Details
7. Figure 3, Allocation Study
8. Figure 4, WACN-LP Agreement to Accept Interference

DECLARATION

I, Timothy Z. Sawyer, declare and that I have provided engineering services in the area of telecommunications since 1969. My qualifications are a matter of record with the Federal Communications Commission. I am a senior engineer with the firm of Mullaney Engineering, Inc., consulting radio telecommunications engineers with offices in Gaithersburg, Maryland.

The firm of Mullaney Engineering, Inc., has been retained by WATERS & BROCK COMMUNICATIONS, INC., to prepare the instant engineering exhibit in support of **an application for Authority to Construct or Make Changes in a Class A Digital Television Broadcast Station, WARZ-DC FCC Facility ID Number 17089.**

All facts contained herein are true of my own knowledge except those stated to be on information and belief, and as to those facts, I believe them to be true. I declare under the penalty of perjury that the foregoing is true and correct.



Timothy Z. Sawyer

Executed on the 23th day of March 2010

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DIGITAL CLASS-A TELEVISION STATION**

WARZ-DC

**DIGITAL CHANNEL 34
MODIFICATION OF CONSTRUCTION PERMIT**

MARCH 2010

NARRATIVE STATEMENT:

I. GENERAL:

This engineering statement and the instant engineering exhibit of which it is part has been prepared on behalf of WATERS & BROCK COMMUNICATIONS, INC., (hereinafter "WB").

This engineering exhibit supports a modification of a digital "flash-cut" construction permit for Class A digital television station WARZ-DC

Station WARZ-LP is licensed (BLTTA-20070619ABR) to operate on analog channel 34 as a Class-A television station with a directional antenna maximum peak (visual) effective radiated power (ERP) of 70-kilowatts and an antenna center of radiation height above mean sea level (RCAMSL) of 161.2 meters.

The proposed digital "flash-cut" facilities will operate on channel 34 with a maximum effective radiated power of 15-kilowatt (15,000 watts) and an antenna height above mean sea level of 161.2 meters, using a directional antenna system.

The proposed facilities will be built to comply with the *FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields* and the instant proposal is categorically excluded from environmental processing pursuant to the provisions of Section 1.1306 of the Commission's Rules. A more detailed

discussion of environmental factors is included under the heading Environmental Considerations below.

Information requested by exhibits in response to questions on Section III of FCC Form 301-CA is incorporated in the following paragraphs, figures and/or tables.

Processing of this application is requested under the rules currently in effect at the time of filing.

ENGINEERING DISCUSSION

Figure 1 is a map showing the licensed 74 dBu (analog) and proposed 51 dBu (digital) coverage contours. As can be seen on the map, the 51 dBu digital contour overlaps that of the 74 dBu analog contour, as well as that of the existing digital construction permit. Therefore, the proposed modification of construction qualifies for processing under the Commission's rules as a "minor" change application.

PROPOSED FACILITIES

This application proposes digital operation on the current analog channel assignment (TV channel 34), at the current transmitter site. No change in station location is proposed.

Figure 2 contains a horizontal radiation (relative field) pattern of the proposed directional horizontal radiation pattern. The proposed antenna is a Dielectric "DIE TFU-16DSB-C" employing 1.0 degrees of electrical beam tilt.

ALLOCATION CONSIDERATIONS

A study has been conducted to assure that the proposal will not create prohibited interference with other licensed, authorized or pending analog or digital TV, LPTV/translator and Class A TV stations with the exception of **WACN-LP which has agreed to accept interference from this proposal.** **Please see Figure 4, incorporated herein.**

Using the procedures outlined in the FCC's OET-69 Bulletin, a 1-kilometer cell size resolution and 2000 U.S. Census, the proposal complies with the current FCC policy and rules.

Each station of concern has been analyzed using the methods described in OET Bulletin No. 69, and the results indicate that no interference (unmasked) or interference above 0.5% of the service population of the station studied will occur, with the exception as previously noted of WACN-LP, Channel 34 which has agreed to accept interference from this proposal.

The results of the OET Bulletin No. 69 styled study are contained with Figure 3.

ENVIRONMENTAL CONSIDERATIONS

The applicant believes its proposal will not significantly affect the environment for the following reasons.

The proposal does not meet any of the criteria specified in Section 1.1307 of the FCC Rules. More specifically, the proposed facilities are not known to fall within any of the categories enumerated in Sections 1.1307(a)(1)-(7) and will not involve the use of high intensity white lights.

This is an existing communications site with no new construction of towers, support buildings or other environmental sensitive items required. The site and this proposal are exempt from NHPA Section 106 review as no construction will occur that would trigger a review under NHPA Section 106.

Furthermore, operation of the proposed facility will not involve the exposure of workers or the general public to levels of radio frequency electromagnetic fields exceeding guidelines adopted by the Federal Communications Commission. (The current FCC guidelines are based upon criteria contained in the National Council of Radiation Protection and Measurements (NCRP) Report No.86 (1986) and ANSI/IEEE C95.1-1992.)

Based upon a worst case downward field value of 0.5 for all angles 20 degrees and greater below the horizon, and a digital power of 15-kilowatts, and an antenna height of 114.3 meters above ground. The power density level 2-meters above ground is predicted to be 0.0040 mW/cm² or less. The computed power density is 0.202% of the Commission's guidelines for a controlled area and 1.01% for an uncontrolled area. This level is well below the Commission's guidelines for maximum exposure levels to electromagnetic fields and no further study is required.

The applicant will fully-cooperate and coordinate with all site users as required by the Commission's rules.

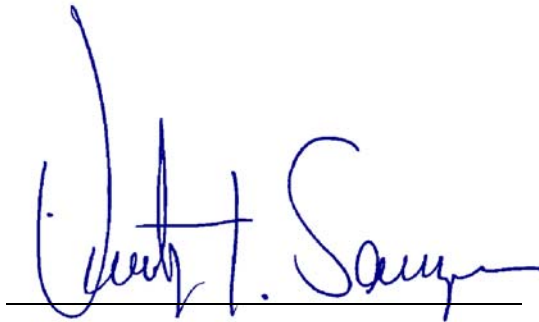
II SUMMARY:

The proposed digital “flash-cut” will operate on Digital Television Channel 34 with a maximum ERP 15-kilowatts, utilizing a DIRECTIONAL antenna system. The estimated digital transmitter power output (TPO) is 0.70 KW (700 Watts).

Operation as proposed herein would not cause/increase any normally prohibited contour overlap using a terrain dependant - OET Bulletin No. 69 review, and would not have any significant impact on the environment.

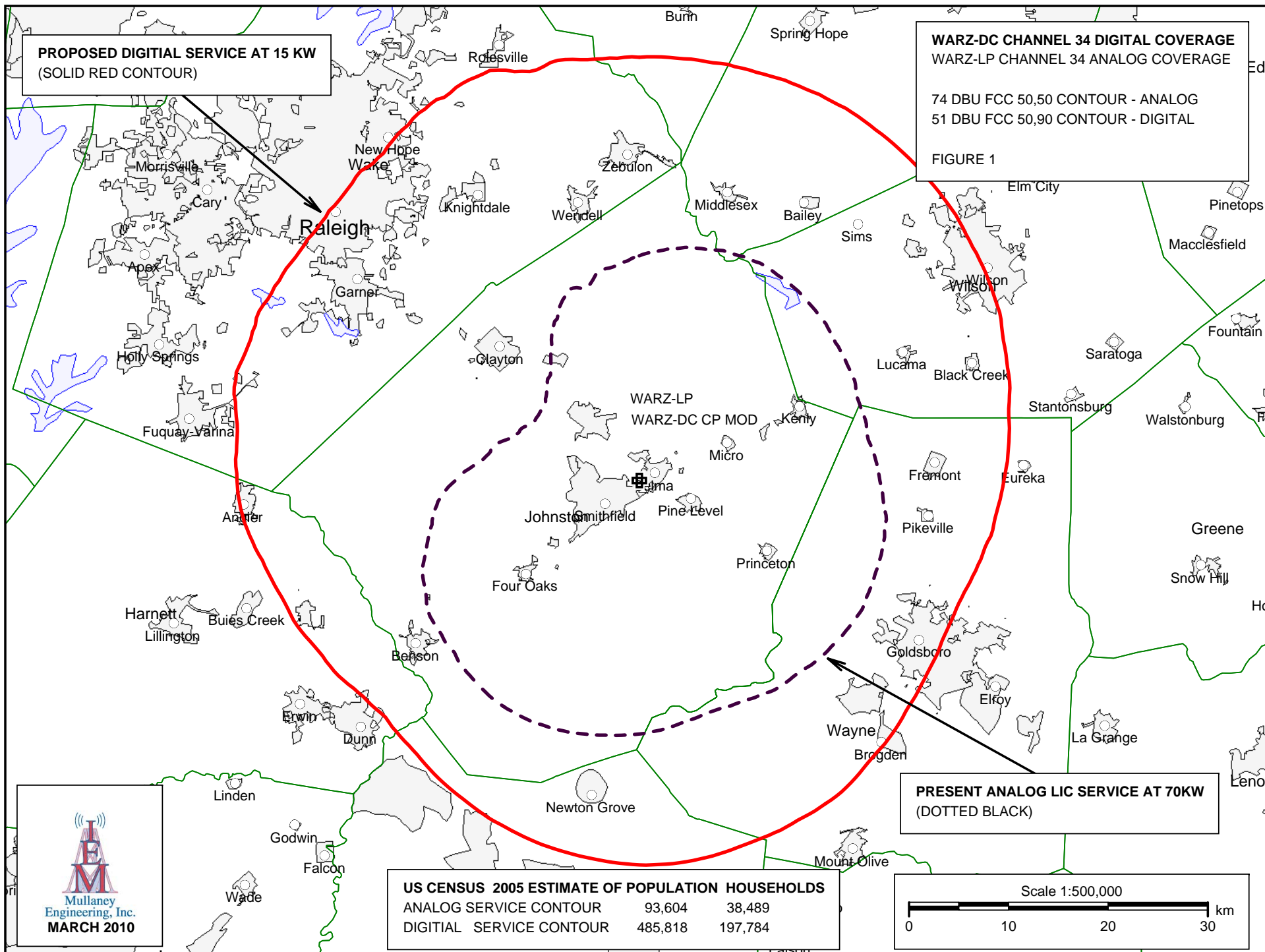
The proposed operation is fully in compliance with all other areas of the Commission’s rules and applicable international agreements with the exception of protection to WACN-LP Channel 34 (analog) licensed and pending applications. **WACN-LP has agreed to accept interference from this proposal (see Figure 4).**

23 March 2010

A handwritten signature in blue ink, appearing to read "Timothy Z. Sawyer", is written over a horizontal line.

Timothy Z. Sawyer

MULLANEY ENGINEERING, INC.
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GAITHERSBURG, MARYLAND USA
TEL.: (301) 921-0115



WARZ-DC DIRECTIONAL ANTENNA PATTERN FIGURE 2

Azimuth (deg)	Relative Field
0.0	0.990
10.0	0.973
20.0	0.946
30.0	0.907
40.0	0.857
50.0	0.792
60.0	0.713
70.0	0.628
80.0	0.547
90.0	0.474
100.0	0.414
110.0	0.378 << MIN
120.0	0.378 << MIN
130.0	0.408
140.0	0.449
150.0	0.487
160.0	0.515
170.0	0.527 <<MINOR LOBE
180.0	0.522
190.0	0.500
200.0	0.467
210.0	0.430
220.0	0.400
230.0	0.398 << MIN
240.0	0.440
250.0	0.510
260.0	0.590
270.0	0.671
280.0	0.748
290.0	0.818
300.0	0.877
310.0	0.924
320.0	0.958
330.0	0.980
340.0	0.994
350.0	1.000 << MAX MAIN LOBE

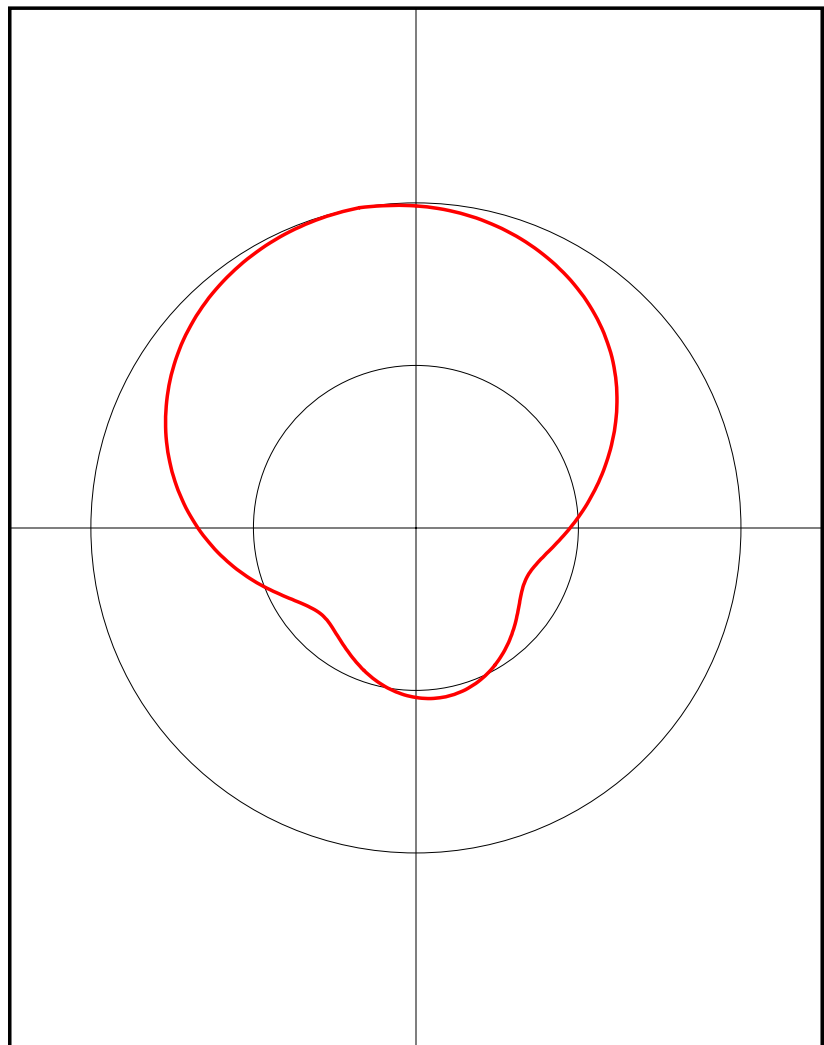


FIGURE 3 - OET BULLETIN NUMBER 69 STUDY RESULTS

Summary Study

Census data selected: 2000
Post DTV Transition Database Selected

TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 03-23-2010 Time: 11:58:39
Record Selected for Analysis

WARZ-LP- USERRECORD-01 SMITHFIELD-SELMA NC US
Channel 34 ERP 15. kW HAAT 105. m RCAMSL 00161 m STRINGENT MASK
Latitude 035-31-46 Longitude 0078-18-07
Status APP Zone 2 Border
Dir Antenna Make usr Model USRPAT01 Beam tilt N Ref Azimuth 350.
Last update Cutoff date Docket
Comments
Applicant

Cell Size for Service Analysis 1.0 km/side
Distance Increments for Longley-Rice Analysis 1.00 km

Not full service station

Facility meets maximum power limit

Azimuth (Deg)	ERP (kW)	HAAT (m)	51.0 dBu F(50,90) (km)
0.0	14.702	92.6	41.7
45.0	10.172	101.7	41.0
90.0	3.370	106.7	35.9
135.0	2.748	115.0	35.6
180.0	4.072	121.9	38.2
225.0	2.388	109.5	34.5
270.0	6.734	104.2	39.2
315.0	13.254	84.8	40.1

Contour Overlap to Proposed Station

Station			
WSOC-TV 34 CHARLOTTE	NC BLCDT20040526ANW		causes

Contour overlap to Digital LPTV station
WARZ-LP- 34 SMITHFIELD-SELMA NC USERRECORD01
Required D/U ratio: 15.0

Station			
WPXU-TV 34 JACKSONVILLE	NC BLCDT20021029AAD		causes

Contour overlap to Digital LPTV station
WARZ-LP- 34 SMITHFIELD-SELMA NC USERRECORD01
Required D/U ratio: 15.0

Station
WPXU-TV 34 JACKSONVILLE NC BPCDT20080620AGG causes

Contour overlap to Digital LPTV station
WARZ-LP- 34 SMITHFIELD-SELMA NC USERRECORD01
Required D/U ratio: 15.0

Contour Overlap Evaluation to Proposed Station Complete

LANDMOBILE SPACING VIOLATIONS FOUND
NONE

Proposed facility OK to FCC Monitoring Stations
Proposed facility OK toward West Virginia quiet zone
Proposed facility OK toward Table Mountain
Proposed facility is beyond the Canadian coordination distance
Proposed facility is beyond the Mexican coordination distance
Proposed station is OK toward AM broadcast stations

Start of Interference Analysis

Channel	Proposed Station Call	City/State	ARN
34	WARZ-LP-	SMITHFIELD-SELMA NC	USERRECORD01

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
33	WMYV	GREENSBORO NC	142.4	LIC	BLCDT	-20020430ABD
33	WMYV	GREENSBORO NC	142.4	PLN	DTVPLN	-DTVP1213
33	NEW	LUMBERTON NC	116.3	APP	BNPDTL	-20100210AAT
33	WHIG-LP	ROCKY MOUNT NC	64.0	LIC	BLTTL	-20050610AGT
33	WHIG-LP	ROCKY MOUNT NC	62.6	CP	BPTTL	-20061012ABA
33	NEW	FLORENCE SC	195.5	APP	BNPDTL	-20090904ACC
33	NEW	FLORENCE SC	190.8	APP	BNPDTL	-20090825AYX
34	WSOC-TV	CHARLOTTE NC	221.8	LIC	BLCDT	-20040526ANW
34	WSOC-TV	CHARLOTTE NC	221.8	PLN	DTVPLN	-DTVP1253
34	W45CO	FAYETTEVILLE NC	73.8	CP	BDISDTT	-20061010AGB
34	W45CO	FAYETTEVILLE NC	73.8	APP	BDISDTT	-20060328AJZ
34	WPXU-TV	JACKSONVILLE NC	136.6	LIC	BLCDT	-20021029AAD
34	WPXU-TV	JACKSONVILLE NC	136.6	PLN	DTVPLN	-DTVP1254
34	WPXU-TV	JACKSONVILLE NC	136.6	CP	BPCDT	-20080620AGG
34	W14AS	WEST ASHEVILLE NC	383.9	APP	BDISDTT	-20090428AAO
34	NEW	WILMINGTON NC	134.5	APP	BNPDTL	-20091210ADH
34	WCIV	CHARLESTON SC	316.7	LIC	BLCDT	-20060630ADJ
34	WCIV	CHARLESTON SC	316.7	PLN	DTVPLN	-DTVP1263
34	W34CQ	MYRTLE BEACH SC	226.1	LIC	BLTT	-20010926AAM
34	NEW	CROZET VA	286.1	APP	BNPDTL	-20090825ASO
34	WPXW-TV	MANASSAS VA	395.3	CP MOD	BMPCDT	-20080620AML
34	WPXW	MANASSAS VA	395.3	PLN	DTVPLN	-DTVP1268
34	W34DN	ONANCOCK VA	354.0	LIC	BLTT	-20070531ANG
35	WGHP-DR	HIGH POINT NC	142.5	APP	BPRM	-20091014AFK
35	WGHP	HIGH POINT NC	142.5	PLN	DTVPLN	-DTVP1293
35	WGHP	HIGH POINT NC	142.5	CP	BPCDT	-20100125ABJ
35	WGHP	HIGH POINT NC	142.5	LIC	BLCDT	-20060912ACW

35	NEW	JACKSONVILLE NC	120.6	APP	BNPDTL	-20100209AAS
35	W35CC	LUMBERTON NC	116.3	CP	BDFCDTT	-20070309ADN
35	W35CC	LUMBERTON NC	116.3	LIC	BLTT	-20040802BEA
35	W35CV-D	FLORENCE SC	190.8	CP	BNPDTL	-20090825AYW
41	WWIW-LP	RALEIGH NC	40.9	CP	BDISTTL	-20070305ABA

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Study of this proposal found the following interference problem(s):

NONE.

AGREEMENT TO ACCEPT INTERFERENCE TO WACN-LP CHANNEL 34 FACILITIES AND PENDING WACN-LP CHANNEL 34 APPLICATIONS
FROM PROPOSED WARZ DIGITAL APPLICATION –

EMAIL COPY BELOW SENT TO HOSSEIN HASHEMZADEH (FCC) ON MARCH 11, 2010
FROM ROBERT L. OLENDER, ESQ, ON BEHALF OF WACN-LP, WORD OF GOD FELLOWSHIP, INC.

From: rolender.law@comcast.net
To: Hossein.Hashemzadeh@fcc.gov
CC: MullEngr@aol.com
Sent: 3/11/2010 1:43:05 A.M. Eastern Standard Time
Subj: WACN

Dear Hossein:

Station WACN-LP has been approached by Jack Mullaney who represents Station WARZ as its consulting engineer, to assist them to expand its authorization for digital operation on Ch. 34 but the existing license on Ch. 34 of WACN-LP prevents such expansion. WACN-LP has a displacement application (BDISDTL-20100128AAB) to change its channel to 21, and we are requesting the FCC to expedite our application and in order to assist WARZ we are willing to accept interference until this displacement application is granted.

Please let us know if this is acceptable to the FCC. Mr. Mullaney can be reached at the below number.

John J. Mullaney (**Jack**)
Mullaney Engineering, Inc.
9049 Shady Grove Court
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301-921-0115 Voice x 1

Thanks,

Bob

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