

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of FAITH BROADCASTING NETWORK, INC., licensee of Class A LPTV station WBNF-CA, Channel 15 in Buffalo, New York, in support of this amendment to its Application for Construction Permit (BDFCDTA-20090507ABL) which specifies digital operation on Channel 15 from the licensed WBNF-CA site. The purpose of this amendment is to propose a change in antenna pattern in order to further protect Canadian television facilities. No change in effective antenna height or site location is proposed herein.

It is proposed to utilize an MCI directional antenna, which will be mounted at the 168-meter level of the existing 339-meter communications tower on which the present WBNF-CA antenna is mounted. Exhibit B is a map upon which the predicted service contours are plotted. It is important to note that the proposed 51 dBu contour encompasses the station's city of license, as well as a significant portion of the present analog WBNF-CA Grade A contour. Operating parameters for the proposed facility are tabulated in Exhibit C. An interference study is provided in Exhibit D, and a power density calculation follows as Exhibit E.

Because no change in the overall height or location of the existing tower is proposed, the FAA has not been notified of this application. The FCC issued Antenna Structure Registration Number 1019110 to this tower.

EXHIBIT A

I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, are true and correct to the best of my knowledge and belief.



KEVIN T. FISHER

May 18, 2010

PROPOSED OPERATING PARAMETERS

PROPOSED WBNF-CD
CHANNEL 15 – BUFFALO, NEW YORK
[AMENDMENT TO BDFCDTA-20090507ABL]

Transmitter Power Output:	0.8 kw
Transmission Line Efficiency:	53.9%
Antenna Power Gain – Toward Horizon:	35.2
Antenna Power Gain – Main Lobe:	35.2
Effective Radiated Power – Toward Horizon:	15 kw
Effective Radiated Power – Main Lobe:	15 kw
Transmitter Make and Model:	Type-accepted
Rated Output	1.0 kw
Transmission Line Make and Model:	Andrew HJ7-50A
Size and Type:	1-5/8" air heliax
Length:	575 feet*
Antenna Make and Model:	MCI 955316
Orientation	105° T**
Beam Tilt	0.5 degrees
Radiation Center Above Ground:	168 meters
Radiation Center Above Mean Sea Level:	347 meters

*estimated

**line of symmetry

LONGLEY-RICE INTERFERENCE STUDIES
PROPOSED WBNF-CD
CHANNEL 15 – BUFFALO, NEW YORK
[AMENDMENT TO BDFCDTA-20090507ABL]

We conducted a detailed interference study using the Longley-Rice methodology contained in the Commission's *OET Bulletin No. 69*, with respect to all facilities of concern. The software utilizes a 1-square kilometer cell size, calculates signal strength at 1.0 kilometer increments along each radial studied, and employs the 2000 U.S. Census to count population within cells. In addition, the program does not attribute interference to the proposed facility in cells within the protected contour of the station under study where interference from another source (other than proposed WBNF-CD) already is predicted to exist (also known as "masking"). The results of this study are provided in Exhibit D-2. It concludes that the facility proposed herein causes no significant new interference to any of the potentially affected stations.

As a result, it is believed that the proposed WBNF-CD facility complies with the requirements of Sections 74.709, 74.793(e), 74.793(f), 74.793(g), 74.793(h), 74.794(b) and 73.1030 of the Commission's Rules.

It is important to note that this proposal is designed to eliminate interference issues with all Canadian television stations. We conducted a similar Longley-Rice interference study of the proposed WBNF-CD facility with regard to all Canadian's analog and digital television facilities of concern. In the study, we utilized a cell size of 2.0 kilometers and an increment spacing of 1-kilometer. Population figures were based upon the 1996 Canadian Census database.

Exhibit D-3 is a printout that summarizes the results of the outgoing interference study. As shown, the only Canadian station which would receive predicted interference from proposed WBNF-CD is CKXT-TV-1-D, Channel 15 in Hamilton, Ontario. We then ran an incoming interference analysis (using the same study parameters) for CKXT-TV-1-D.

The results of the study are provided in Exhibit D-4. The proposed WBNF-CD facility causes predicted interference to 21,813 Canadians within the CKXT-TV-1-D Canadian service population, or 0.35% of the total service population. However, when masking from the present analog WBNF-CA facility and WUTV-DT (Channel 14 in Buffalo) is considered, the number of people uniquely affected by the WBNF-CD proposal drops to less than 0.1% of the CKXT-TV-1-D service population. It is also important to note that the present analog WBNF-CA facility causes predicted interference to 45,326 Canadian viewers of CKXT-TV-1-D. Operation of digital WBNF-CD would improve service to more than half of those presently affected by the licensed analog WBNF-CA operation.

Accordingly, it is believed that a grant of the instant application would not adversely affect any Canadian television station or proposal.

Summary Study

Census data selected: 2000

Post DTV Transition Database Selected

TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 01-28-2010 Time: 12:54:37

Record Selected for Analysis

WBNF-CA- USERRECORD-01 BUFFALO NY US
 Channel 15 ERP 15. kW HAAT 169. m RCAMSL 00348 m STRINGENT MASK
 Latitude 043-01-32 Longitude 0078-55-43
 Status APP Zone 1 Border
 Dir Antenna Make usr Model USRPAT01 Beam tilt N Ref Azimuth
 60.
 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	0.713	163.8	32.0
45.0	12.682	169.5	47.2
90.0	8.573	176.3	45.6
135.0	11.354	150.3	45.3
180.0	7.972	168.8	44.8
225.0	0.050	171.7	19.1
270.0	0.002	172.5	8.0
315.0	0.002	176.2	8.0

Contour Overlap to Proposed Station

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 within the Canadian coordination distance
Distance to border = 7.9km

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

Start of Interference Analysis

	Proposed Station		
Channel	Call	City/State	ARN
15	WBNF-CA-	BUFFALO NY	USERRECORD01

Stations Potentially Affected by Proposed Station

Chan No.	Call	City/State	Dist(km)	Status	Application	Ref.
14	WFBT	BATH NY	160.6	CP MOD	BMPCDT	-
20090327	AEF					
14	WUTV	BUFFALO NY	0.0	LIC	BLCDT	-
20060829	BGK					
15	WDCQ-TV	BAD AXE MI	387.1	LIC	BLEDT	-
20030922	ABG					
15	WNYA-CA	ALBANY NY	404.3	CP MOD	BMPDTA	-
20081017	AHE					
15	WNYA-CA	ALBANY NY	404.3	APP	BDISDTA	-
20080610	ACK					
15	WNYA-CA	ALBANY NY	404.3	LIC	BLTTA	-
20030903	ABN					
15	WTKO-LP	ONEIDA NY	264.9	LIC	BLTT	-
20000302	AAT					
15	WISF-LP	ONEONTA NY	321.4	LIC	BLTTL	-
19900425	JZ					
15	WSPX-TV	SYRACUSE NY	235.4	APP	BMPCDT	-
20080620	AIU					
15	WSPX-TV	SYRACUSE NY	235.4	CP	BPCDT	-
20080305	ABH					
15	WSPX-TV	SYRACUSE NY	235.4	APP	BMPCDT	-
20080620	AIU					
15	WEWS-TV	CLEVELAND OH	294.0	LIC	BLCDT	-
20020304	ACC					
15	WEWS-TV	CLEVELAND OH	294.0	CP MOD	BMPCDT	-
20091201	ANL					
15	WPSU-TV	CLEARFIELD PA	215.3	CP MOD	BMPEDT	-
20030527	ADP					
15	WGAL	LANCASTER PA	397.3	APP	BDRTCDT	-
20090824	ADT					
15	W15CO-D	TOWANDA PA	250.4	LIC	BLDTT	-
20081125	AUS					
16	W16BE	HORNELL, ALFRED NY	135.4	LIC	BLTTL	-
19981217	JE					
16	WXXI-TV	ROCHESTER NY	109.8	LIC	BLEDT	-
20030916	ABS					
16	WSEE-TV	ERIE PA	138.5	CP MOD	BMPCDT	-
20050216	ACD					

Outgoing Interference Population Report

Proposed WBNF-CD (15N) Buffalo, NY - BSTA20090511APM
Broadcast Type: Digital Service: G [Stringent Emission Mask]
Lat: 43-01-32 N Lng: 078-55-43 W ERP: 15.0 kW AMSL: 347.5 m
TV Outgoing Interference Study
Signal Resolution: 2.0 km
Consider NTSC Taboo: Yes
KWX error points are considered to
be interference free coverage.
Default # of radials computed for contours: 72
Contours calculated using 8 radial HAAT.
LR Profile Spacing Increment: 1.0 km
Masked interference points are being
counted as interference.
Using LPTV/translator D/U rules.
Pop Centroid DB: 2000 US Census (SF1)

Study Date: 5/18/2010
TV Database Date: 5/11/2010

Primary Terrain: V-Soft 3 Second US Terrain
Secondary Terrain: V-Soft 3 Second Alaska Terrain

Population Database: 1996 Canada Census

Call	Area	HUnits	Contour	Masked Ix	Unmasked Ix	%
CBLFT13 (15-)	0.0	0	278,071	0	0	0.0
CFTO-TV-2-D.A (15)	0.0	0	651,030	0	0	0.0
CBLFT-13-D (15)	38.3	0	350,488	0	0	0.0
CKXT-TV-1-D (15)	2560.6	8,999	6,182,104	0	21,813	0.4
Sturgeon F. DTV (15)	0.0	0	272,673	0	0	0.0
Hamilton X-Lator (16)	0.0	0	773,001	0	0	0.0
CBLT-TV-1-D (16)	0.0	0	501,456	0	0	0.0
CICATV (19-)	0.0	0	6,005,074	0	0	0.0

V-Soft Communications Population Report

CKXT-TV-1-D (15) Hamilton, ON - BPFS20081202AES
 Broadcast Type: Digital Service: T
 Lat: 43-12-27 N Lng: 079-46-28 W ERP: 493.0 kW AMSL: 487.46 m
 TV Incoming Interference Study
 Interference Considered Within: Noise Limited FCC Contour
 Signal Resolution: 2.0 km
 LR Profile Spacing Increment: 1.0 km
 Consider NTSC Taboo: Yes
 KWX error points are considered to
 be interference free coverage.
 # of radials computed for protected contour: 72
 Protected contour calculated using 8 radial HAAT.
 Using lptv/translators D/U rules.
 Threshold for reception: 38.8292
 Pop Centroid DB: 2000 US Census (SF1)

Study Date: 1/28/2010
 TV Database Date: 1/27/2010

Primary Terrain: V-Soft 30 Second World Terrain
 Secondary Terrain: V-Soft 3 Second US Terrain

Population Database: 1996 Canada Census

Percentages calculated using a baseline population of 6,180,242.

Stations which cause interference:

Call Letters	H Units	Population	%	Area (sq. km)
WUTV-DT (14)	1480	3010	0.049	927.53
Present WBNF-CA (15+)	17201	45326	0.733	1736.95
Proposed WBNF-CD (15N)	8999	21813	0.353	2503.08

Masking Summary:

Call Letters	Total Interference		Unique Interference	
	Population	%	Population	%
WUTV-DT (14)	3010	0.049	0	0.000
Present WBNF-CA (15+)	45326	0.733	27188	0.440
Proposed WBNF-CD (15N)	21813	0.353	3675	0.059

Totals for CKXT-TV-1-D (15)

Calculation Area Population:	6,187,434	(30364.5 sq. km)
Not Affected by Terrain Loss:	6,180,242	(30234.4 sq. km)
Total NTSC Interference:	45,326	(1737.0 sq. km)

EXHIBIT D-4 continued

DTV Only Interference:	3,675	(1053.4 sq. km)
Total DTV Interference:	21,813	(2503.1 sq. km)
Interfered Population:	49,001	(2790.3 sq. km)
Interference Free:	6,131,241	(27444.1 sq. km)
Percent Interference:	0.79		
Terrain Blocked Population:	7,192	(130.1 sq. km)
Contour Area Population:	6,184,723		

POWER DENSITY CALCULATION

PROPOSED WBNF-CD
CHANNEL 15 – BUFFALO, NEW YORK
[AMENDMENT TO BDFCDTA-20090507ABL]

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Buffalo facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 15 kw, an antenna radiation center 168 meters above ground, and the vertical pattern of the MCI antenna, maximum power density two meters above ground of 0.000029 mw/cm^2 is calculated to occur 74 meters southeast of the base of the tower. Since this is less than 0.1 percent of the 0.32 mw/cm^2 reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 15 (476-482 MHz), this proposal may be excluded from consideration with respect to public exposure to nonionizing electromagnetic radiation.

Further, the station owner will take whatever precautionary steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive nonionizing radiation.