

ENGINEERING REPORT FOR
WORD OF GOD FELLOWSHIP
APPLICATION FOR WDTB-LP
LOW POWER TELEVISION STATION
BUFFALO, NY
CHANNEL 40 50 KW MAX. 372 METERS AMSL

JUNE 25, 2002

DAYSTAR TELEVISION NETWORK
BROADCAST CONSULTANTS
DALLAS, TX

Introduction

This engineering report has been prepared on behalf of Word of God Fellowship in support of an Special Temporary Authorization for WDTB-LP, FCC Facility ID No. 61426 for Channel 40 at Buffalo, New York.

It is proposed to operate using a Propagation Systems Inc. directional antenna with an effective radiated power (ERP) of 50 Kw at horizon and a radiation center of 372 meters above sea level. Aural power is proposed at 10% of visual power value.

Transmitter Site

It is proposed to side-mount the antenna at 1 Marine Midland Center, Buffalo, NY.

The NAD-27 geographic coordinates of the transmitter site are:

North Latitude: 42° 52' 46.79"

West Longitude: 78° 52' 34.87"

Equipment Data

Transmitter: Type-Verified, rated at 1 Kw visual and .1 Kw aural
Transmission Line: 60 meters of Andrew, Type LDF7-50A
1-5/8" Foam Dielectric 50-ohm line
Antenna: Propagation Systems Inc, PSILP16CRAR horizontal polarized, Slot Array Antenna.

Power Data

Visual

Transmitter output	1.00 kW	0.00 dBk
Transmission line efficiency	75.76 %	-1.21 dB
Power input to antenna	0.76 kW	-1.21 dBk
Antenna power gain (Horizon)	66.00	18.20 dB
Effective Radiated Power (Horizon)	50.00 kW	16.99 dBk

Elevation Data

Vertical dimension antenna	8.0 meters	26.2 feet
Elevation of the site above mean sea level	184.4 meters	591.9 feet
Height of top of structure above ground	189.6 meters	622.1 feet
Height of top of supporting structure above mean sea level	377.0 meters	1214.0 feet
Radiation center above ground	185.6 meters	609.0 feet

Other Stations

No objectionable interference problems are anticipated, however, if any problems occur, the applicant will take the necessary steps to resolve them.

FCC Rule, Section 1.1307

The proposed TV operation with a peak ERP of 50 kW visual and 5 kW aural will utilize a Propagation Systems Inc. horizontal polarized slot array directional Channel 40 antenna. Calculations to determine power density levels from the proposed operation were performed using formulas outlined in OET Bulletin 65 (Edition 97-01) based on antenna relative field factor of .1 The formula used is:

$$S = \frac{(33.4)(F^2)(.4VERP+AERP)}{R^2}$$

The maximum power density levels at two meters above ground level are .248 $\mu\text{W}/\text{cm}^2$ computed for a radiation center of 183.6 meters above ground level. The maximum allowed by OET65 bulletin is:

Occupational/Controlled Exposure

Frequency / .3

2,097 $\mu\text{W}/\text{cm}^2$

General Population

Frequency / 1.5

419 $\mu\text{W}/\text{cm}^2$

The proposed operation will be in compliance with the FCC RF radiation guidelines since areas that exceed the FCC standards will be alerted to workers by posting warning signs and restricting areas. All stations on the tower will have a mutual written agreement and procedures for workers climbing the tower. Transmitter power of each station will be reduced or terminated when workers are near areas

on the tower where power density levels are in excess of the FCC standard. An environmental assessment (EA) is categorically excluded under Section 1.1307 of the FCC Rules and Regulations since the applicant indicates:

- (a)(1) The proposed facilities are not located in an officially designated wilderness area.
- (a)(2) The proposed facilities are not located in an officially designated wildlife preserve.
- (a)(3) The proposed facilities will not affect any listed threatened or endangered species or habitats.
- (a)(3)(ii) The proposed facilities will not jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats.
- (a)(4) The proposed facilities will not affect any known districts, sites, buildings, structures, or objects significant in American history, architecture, archaeology, engineering, or culture.
- (a)(5) The proposed facilities are not located near any known Indian religious sites.
- (a)(6) The proposed facilities are not located in a flood plain.
- (a)(7) The side-mounted TV antenna on the existing tower will not involve a significant change in surface features of the ground in the vicinity of the tower.
- (a)(8) The existing tower structure is not equipped with high intensity white lights.
- (b) There will be a security fence with a locked gate to surround the tower. Workers and the general public will not be subjected to RF radiation levels in excess of FCC OET Bulletin 65 (Edition 97-01). Authorized personnel will be alerted to areas of the tower where potential radiation levels are in excess of the FCC standard. The transmitter power will be reduced or terminated when necessary.

Interference Study

A study was done and the following were found to cause possible objectionable interference.

CFMTTV	47	Toronto, Canada	See attached Longley-Rice Study.
WIVB-DT	39	Buffalo, NY	See attached Longley-Rice Study.
WNYB-TV	26	Jamestown, NY	See attached Longley-Rice Study.

They all proved to be clear, therefore, the proposed station meets the FCC criteria and is grantable.

Summary of Channel 40 Z

Lat: 42-52-46.8 N
Lon: 78-52-34.9 W

ComStudy 2.2 RadioSoft
Longley Rice Study

Callsign	Channel	City	State	Fac ID	ARN	Lat	Lon	ERP	AMSL_m	Status	Dist	Clearance	Total Pop	Pop Within	Overlap	% Pop Within	Overlap
	39 (-)	GENESEO	NY	0	RM8744	42-46-10.0 N	77-33-21.0 W	0	447	Bad Data	108.4	84.1	N/C		N/C		N/C
	40 (Z)	LONDON	ON	98232		42-57-20.0 N	81-21-20.0 W	1678	515.88	Clean	202	77	N/C		N/C		N/C
CBLFT	25 (Z)	TORONTO	ON	97917		43-38-33.0 N	79-23-15.0 W	1760	600.75	Clean	94.4	0	671870		0		0.00%
CBLFT12	44 (Z)	PETERBOROUGH	ON	98770		44-07-11.0 N	78-08-12.0 W	111	494.25	Clear	150.2	118.2	N/C		N/C		N/C
CFMTTV	47 (+)	TORONTO	ON	96937		43-38-33.0 N	79-23-15.0 W	1138	601.75	Clean	94.4	-5.6	267653		0		0.00%
CHOTTV	40 (Z)	HULL	QU	97765		45-30-11.0 N	75-51-02.0 W	684	487.88	Clean	378.4	220.8	N/C		N/C		N/C
CIITV41	41 (Z)	TORONTO	ON	98613		43-38-33.0 N	79-23-15.0 W	1475	601.75	Clean	94.4	3.6	438435		0		0.00%
NEW	41 (N)	GENESEO	NY	127001	BPRM20000717ABS	42-38-08.0 N	77-48-50.0 W	200	538	Interf	90.9	32.6	124286		37		0.03%
NEW	41 (N)	ROCHESTER	NY	127008	BPRM20000906AAB	43-10-00.0 N	77-40-00.0 W	25	310	Clean	103.4	76.6	657756		0		0.00%
NEW	40 (+)	SARANAC LAKE	NY	127404	BPRM20000717ADL	44-09-35.0 N	74-28-34.0 W	155	970	Clean	382.1	201.4	15858		0		0.00%
NEW	40 (Z)	RENOVO	PA	127673	BNPTT20000830AKJ	41-18-19.0 N	77-44-45.0 W	0.2	637	Clean	198.3	11.7	87		0		0.00%
W27BJ	40 (Z)	FRANKFORT	NY	60869	BPTTL20010112ACY	42-53-17.0 N	75-04-03.0 W	10	547	Clean	310.2	110.5	4176		0		0.00%
W40BJ	40 (Z)	DEWITT	NY	14312	BLTTL19990125JC	43-00-25.0 N	76-05-38.0 W	10	297	Clean	226.9	34.4	315543		0		0.00%
W65DJ	40 (-)	ERIE	PA	15346	BPTTL20020307ABH	42-05-25.0 N	79-56-36.0 W	50	521	Clean	123.9	90.6	30470		0		0.00%
WBGT-LP	40 (+)	ROCHESTER	NY	10318	BLTTL19971014JH	43-10-14.0 N	77-40-23.0 W	10	300	Clean	103	15	479473		0		0.00%
WDTB-LP	39 (-)	HAMBURG	NY	61426	BLTTL19930721IE	42-49-50.0 N	78-47-54.0 W	16.9	278	Clean	8.4	0	313434		0		0.00%
WHIZ-DT	40 (N)	ZANESVILLE	OH	61216	BMPCDT20020314AAE	39-55-42.0 N	81-59-07.0 W	620	422	Clean	418.1	277.8	734915		0		0.00%
WHIZ-TV*	40 (N)	ZANESVILLE	OH	61216	DTV ALLOTMENT	39-55-42.0 N	81-59-06.0 W	50	412.86	Clean	418.1	291.5	442596		0		0.00%
WHIZ-TV*	40 (N)	ZANESVILLE	OH	61216	DTV ALLOTMENT	39-55-42.0 N	81-59-06.0 W	50	412.86	Clean	418.1	291.5	442596		0		0.00%
WICZ-TV	40 (-)	BINGHAMTON	NY	62210	BLCT19900206KG	42-03-22.0 N	75-56-39.0 W	468	771	Clean	257.3	37	271646		0		0.00%
WIVB-DT	39 (N)	BUFFALO	NY	7780	BPCDT19991025ACW	42-39-33.0 N	78-37-33.0 W	790	813	Clean	31.9	-91	2188859		0		0.00%
WIVB-TV*	39 (N)	BUFFALO	NY	7780	DTV ALLOTMENT	42-39-33.0 N	78-37-33.0 W	1000	764.42	Clean	31.9	-86.4	2005525		0		0.00%
WIVB-TV*	39 (N)	BUFFALO	NY	7780	DTV ALLOTMENT	42-39-33.0 N	78-37-33.0 W	1000	764.42	Clean	31.9	-86.4	2005525		0		0.00%
WNYB	26 (+)	JAMESTOWN	NY	30303	BLCT19970115KF	42-23-36.0 N	79-13-44.0 W	5000	858	Clean	61.3	-44.2	1406526		0		0.00%
WONS-LP	25 (+)	OLEAN	NY	10869	BLTTL19890608IB	42-03-04.0 N	78-25-13.0 W	0.773	692	Clean	99.4	71.1	13314		0		0.00%
WOUC-TV	44 (-)	CAMBRIDGE	OH	50141	BMLET19910905KG	40-05-32.0 N	81-17-19.0 W	550	707	Clear	369.3	337.3	N/C		N/C		N/C
WOUC-TV	44 (-)	CAMBRIDGE	OH	50141	BPET20010321ABH	40-05-32.0 N	81-17-19.0 W	871	704	Clear	369.3	337.3	N/C		N/C		N/C
WPCB-TV	40 (+)	GREENSBURG	PA	13924	BPCT19991004ABW	40-23-34.0 N	79-46-54.0 W	4900	601	Clean	286.5	158.5	2282785		0		0.00%
WPCB-TV	40 (+)	GREENSBURG	PA	13924	BLCT19990706KF	40-23-34.0 N	79-46-54.0 W	4900	615	Clean	286.5	160	2251295		0		0.00%
WVIA-TV	44 (-)	SCRANTON	PA	47929	BLET19830929KG	41-10-55.0 N	75-52-17.0 W	1000	890	Clear	311.7	279.7	N/C				