

**ENGINEERING EXHIBIT
APPLICATION FOR
MODIFICATION OF LICENSE
STATION WBXD-LP
THE BOX WORLDWIDE LLC
DETROIT, MICHIGAN
CH 23z 50 KW (MAX-DA) 427 METERS AMSL**

TV BROADCAST ANALOG SYSTEM PROTECTION

The proposed facility fulfills the interference requirements of Section 74.705 of the FCC Rules with respect to existing NTSC television stations with several exceptions. Protection of three of these stations can be demonstrated by employing the Longley-Rice methodology described in the FCC Office of Engineering Technology, Bulletin Number 69. The following table summarizes the NTSC stations, and predicted interference that is calculated using the Longley-Rice methodology.

<u>Station</u>	<u>City, State</u>	<u>Channel</u>	<u>ERP</u> (kW)	<u>HAAT</u> (meters)	<u>Interference</u> <u>Increase</u> (1990 Pop.)	<u>(%)</u>
WVPX	Akron, OH (Lic.)	23+	1,290	293	0	0
WVPX	Akron, OH (CP)	23+	5,000	296	0	0
WKAR-TV	East Lansing, MI	23-	1,230	296	4,720	0.4
WNWO-TV	Toledo, OH	24-	4,370	424	0	0

Figure 1 is a copy of the output from the FCC's FORTRAN Longley-Rice (FLR) computer program which demonstrates that predicted interference towards these stations will either be nonexistent or within the FCC

rounding tolerance. To permit the use of the Longley-Rice model to demonstrate protection to the aforementioned stations, The Box requests a waiver of the contour protection requirements of Section 74.705 of the FCC Rules.

The proposed WBXD-LP site is 88 kilometers from WGTE-TV, channel 30, Toledo, Ohio. Section 74.705(b)(4) of the FCC Rules states that:

A UHF low power TV or TV translator construction permit application will not be accepted if it specifies a site less than 100 kilometers from the transmitter site of a UHF TV broadcast analog station operating on a channel which is the seventh channel above the requested channel, unless it can demonstrate that the service area of the low power TV or TV translator station as established in §74.707(a) is not located in an area where the TV broadcast analog station is regularly viewed.

Figure 2 of this exhibit is a map showing the location of the WGTE-TV Grade B contour and the location of the proposed service area for WBXD-LP. Since the two contours do not overlap is evident that the WBXD-LP service area is not in an area where WGTE-TV is regularly viewed.

The only other NTSC station requiring consideration is the first adjacent operation of CIITV22, channel 22, Stevenson, Ontario. CIITV22 operates with a maximum effective radiated power of 794 kilowatts and antenna radiation center height above average terrain of 110 meters. According to the United States/Canadian Working Agreement, the interfering contour for the first adjacent channel relationship is the 98 dbu F(50,10). Figure 3 of this exhibit is a map illustrating that the 98 dBu contour for the proposed WBXD-LP facility

does not cross the United States/Canadian border. Thus, interference to CHITV22 in Canada is not predicted to result.

Due to the very limited spectrum available in the Detroit area, it was necessary to select a channel for WBXD-LP that may be subject to interference from nearby NTSC stations. The Box agrees to accept predicted interference from the licensed, authorized or currently proposed facilities of existing NTSC stations.

DENNY & ASSOCIATES, P.C.
CONSULTING ENGINEERS
OXON HILL, MARYLAND

Engineering Statement
WBXD-LP, Detroit, Michigan

Figure 1
Sheet 1 of 2

Reference Analysis without WBXD-LP on channel 23

Analysis of: 23N OH AKRON WVPX Lic.

	POPULATION	AREA (sq km)
within Noise Limited Contour	3595267	17086.5
not affected by terrain losses	3558272	16785.3
lost to NTSC IX	563888	1120.6
lost to additional IX by ATV	25548	172.7
lost to all IX	589436	1293.3

Analysis of: 23N OH AKRON WVPX CP BPCT-19990128KN

	POPULATION	AREA (sq km)
within Noise Limited Contour	3996363	23146.2
not affected by terrain losses	3939311	22479.5
lost to NTSC IX	316287	1490.1
lost to additional IX by ATV	5529	345.4
lost to all IX	321816	1835.5

Analysis of: 24N OH TOLEDO WNWO-TV

	POPULATION	AREA (sq km)
within Noise Limited Contour	2293700	23881.1
not affected by terrain losses	2288046	23877.0
lost to NTSC IX	31129	544.2
lost to additional IX by ATV	47097	1487.5
lost to all IX	78226	2031.7

Analysis of: 23N MI EAST LANSING WKAR-TV

	POPULATION	AREA (sq km)
within Noise Limited Contour	1387560	16663.7
not affected by terrain losses	1382166	16643.7
lost to NTSC IX	48912	356.6
lost to additional IX by ATV	15561	308.5
lost to all IX	64473	665.1

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Engineering Statement
WBXD-LP, Detroit, Michigan

Figure 1
Sheet 2 of 2

Analysis with WBXD-LP on Channel 23

Analysis of: 23N OH AKRON WVPX Lic.

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within Noise Limited Contour	1387560	16663.7
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lost to NTSC IX	53632	408.7
lost to additional IX by ATV	15561	308.5
lost to all IX	69193	717.2



