

## Exhibit 18

### TV Channel 6 Study

The proposed site is 23.94 km from WRTV, a TV channel 6 station in Indianapolis, IN. This is well within the guidelines of 166 km shown in Table A, §73.525 of the Commission's rules. This exhibit demonstrates that the proposed station will not cause interference in an area containing more than the 3,000 persons as specified in §73.525(c). This is possible because the proposed station is on a high channel, is in a rural location with low resident population and employs vertically polarized radiation.

The affected population in the area of interference was determined as follows:

1) A chart was prepared tabulating the data from §73.599 Figure 1 for channel 218. It shows each protected contour of the TV station, the associated undesired/desired ratio, and the resultant interfering contour (= TV6 protected contour + U/D ratio) for the proposed FM station to create "just perceptible" interference.

2) Since the proposed FM antenna is vertically polarized, a power correction is made for the vertical polarization. The equivalent power is  $H + V/40 = 0.0 + 0.130/40 = 0.00325$  kW ( 3.25 W), since the predicted area of interference lies entirely outside the limits of a city of 50,000 persons (§73.525(e)(4)(ii)). This value is used in all subsequent calculations in this exhibit relating to the proposed station.

3) A map was prepared showing the predicted TV6 protected contours in the area of interest and the associated predicted FM interfering contours over the same area. Only the relevant contours are plotted for the map, as shown in the tabulation. Contours are calculated according to the procedures specified in §73.684 for the TV protected contours and §73.313 for the FM station interference contours. The relevant section of the map was also expanded to allow the population centroids (see 5.)) to be identified.

4) Normally, on the expanded map, a point would be plotted at each point in the appropriate azimuths where the TV6 protected contour intersects the associated FM interfering contour. These points would be joined by smooth line segments. The closed curve created designates the "area of just perceptible interference". This manually drawn curve largely encompasses barren land, and could therefore be expected to be sparsely inhabited. In this case, the interfering contours all lie between two contours of the TV station and themselves describe the "area".

5) C.F.R. §73.525(e)(2)(iv) provides for higher precision than the assumption of uniform population density underlying §73.525(e)(2)(ii) and (iii), allowing "more detailed population data" to be used. Increasing the spatial resolution to the census block group level, the census block group centroids were plotted by latitude and longitude. No centroids were found to be inside the "area of just perceptible interference". This is well within the 3,000 maximum count required by §73.525(c)(2).

**Since it has been demonstrated that the population in the "area of interference" is less than the statutory limit of 3,000, the Commission may properly grant the proposed construction permit.**

Channel-Six TV Protection Study

WRTV LI 06Z 1C Dom 100.000 kW 279 M HAAT V HY  
Indianapolis IN 534M COR AMSL  
N. Lat= 39 53 58, W. Lng= 86 12 02  
Mcgraw-hill Broadcasting C BLCT20011203CES  
Fac ID# 40877, Cutoff Date= 3 037  
Dist.=23.93553 km, Azi=54.6°, Rev Azi=234.6°

Direct line HAAT Grade B, 47 dBu= 101.79 km & Grade A= 52.96 km

Distance from reference to Grade B = -77.85 km

Cutoff Dist from Full Service= 166

Maximum Co-located power= 100 kW

WRTV Signal Contour at Reference location = 84.3 dBu

CH. 218, U/D ratio = 9.2 dB, Maximum FM signal = 93.5 dBu , add 6 dB if within angle.

TV/FM D to U values

47.0	79.5		55.0	77.5		63.0	78.0		71.0	82.2		79.0	88.9		87.0	95.9
48.0	79.2		56.0	77.3		64.0	78.3		72.0	83.0		80.0	89.7		88.0	96.7
49.0	78.8		57.0	77.3		65.0	78.5		73.0	83.9		81.0	90.6		89.0	97.6
50.0	78.5		58.0	77.3		66.0	79.1		74.0	84.7		82.0	91.5		90.0	98.5
51.0	78.3		59.0	77.3		67.0	79.6		75.0	85.5		83.0	92.4		91.0	98.5
52.0	78.0		60.0	77.5		68.0	80.2		76.0	86.4		84.0	93.3		92.0	98.5
53.0	77.8		61.0	77.6		69.0	80.9		77.0	87.2		85.0	94.1		93.0	98.5
54.0	77.6		62.0	77.8		70.0	81.5		78.0	88.0		86.0	95.0		94.0	98.5

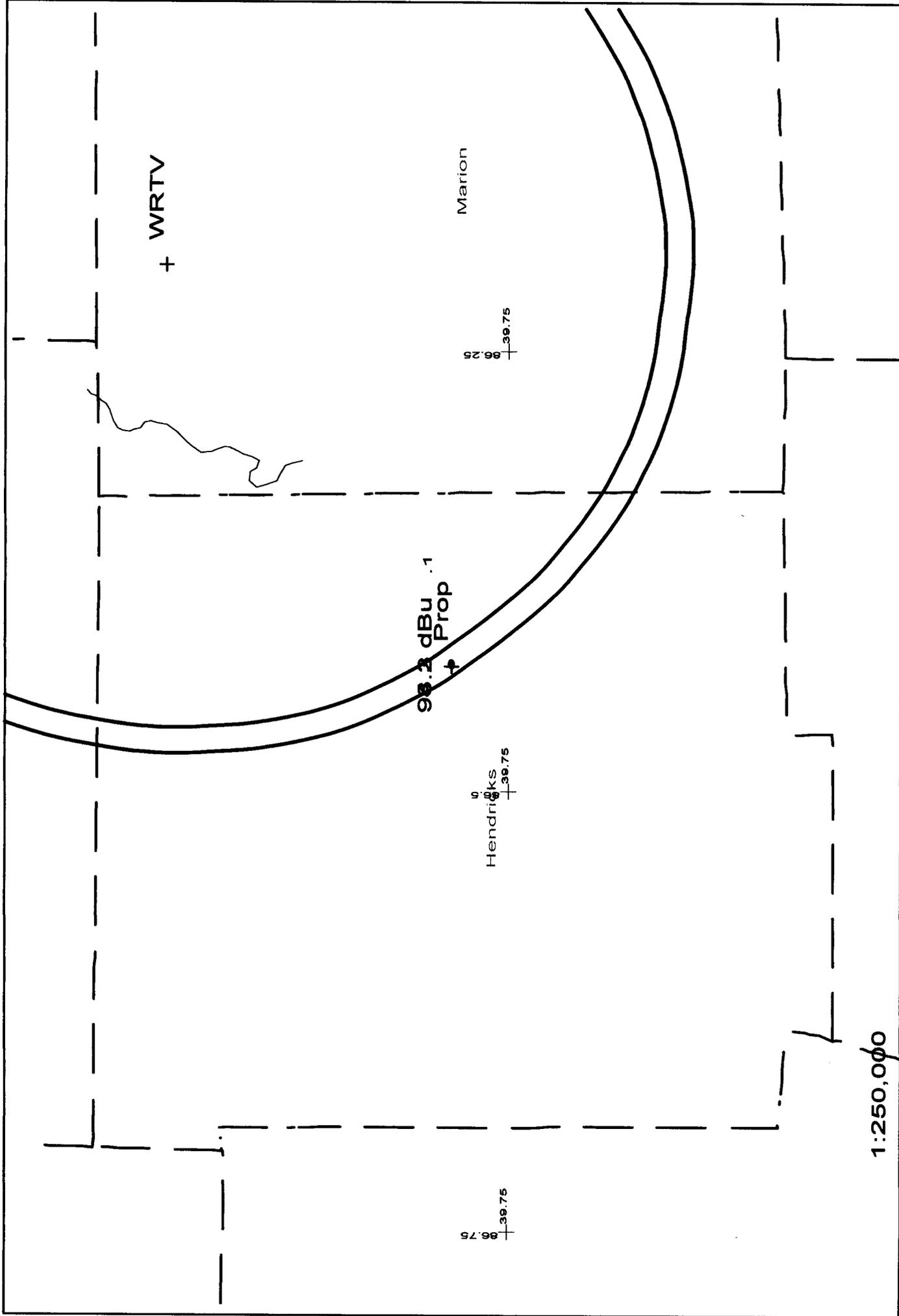
# Exhibit 18

## TV6 Interpolation

Channel 218 - 91.5 MHz

Report Radius 166 km.

TV Contour	Undesired/Desired Ratio	Total
84	9.3	93.3
85	9.2	94.2



86.75  
|  
39.75

Hendricks  
|  
39.75

98.2 dBu .1  
Prop

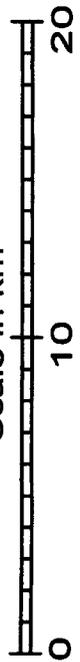
86.25  
|  
39.75

Marion

+ WRTV

1:250,000

Scale in km



Prop 218A .00325kW 306M AMSL

N. Lat. 39 46 30 W. Lng. 86 25 44

IN Leb TV6

Bob Moore - 01/05

# 03.2 DEBU Prop

