

**Goldman Engineering Management  
Dallas, Texas.**

---

TECHNICAL EXHIBIT  
APPLICATION FOR FM CONSTRUCTION PERMIT  
FACILITY ID 9310  
STATION WBTN-FM  
BENNINGTON, VERMONT  
CH 232A    3KW    34 M HAAT

TECHNICAL NARRATIVE

This technical narrative is filed in support of an application for construction permit for station WBTN-FM at Bennington, Vermont. This application's purpose is to modify WBTN-FM's allocation designation with respect to WDVT (FM) from 72.207 to 73.215 contour protection. No change in the operation of WBTN-FM is proposed in this application.

CONTINGENT APPLICATIONS

The instant application is being concurrently filed under the contingent application rules [Section 73.3517 (e)] as the grant of this application is contingent with WDVT (FM), Rutland Vermont which is applying concurrently to relocate to a new tower site and operate pursuant to Section 73.215 contour protection with respect to WDVT . Thus, both WDVT and WBTN-FM will be operating pursuant to 73.215 contour protection to each other following the grant of these applications. WBTN-FM will not change its existing operation operating at 3kw and 34m HAAT as currently licensed.

CORRECTION OF SITE COORDINATES AND AMSL HEIGHT

This application also seeks to correct the licensed coordinates of WBTN-FM to coincide with the Antenna Structure Registration (ASR) of WBTN-FM (ASR 1044963). The requested change is 0.1° Latitude and 1.6° Longitude to 42-56-52.9 N Latitude and 73-10-33.9 W Longitude.

The AMSL as specified on the ASR of the WBTN-FM site is 385.6m which is 1.4m lower than that inferred on the license (387.0m). This application seeks to correct that error. Based upon the use of 8 radials, the HAAT of WBTN-FM remains the same at 34m. Please see Figure 1 for the HAAT calculation.

## RESPONSE TO PARAGRAPH 14- COMMUNITY COVERAGE

Since WBTN-FM will not be materially changing any operating parameters, there is no change in its coverage of Bennington, Vermont. All of Bennington will continue to be served by the 70dBu contour.

## RESPONSE TO PARAGRAPH 13, 16- ALLOTTMENT, INTERFERENCE

Although WBTN-FM is not changing any operating parameters, the following table indicates the WBTN-FM allocation situation particularly as it changes with respect to WDTV. The correction of the WDTV site coordinates (0.1° Latitude and 1.6° Longitude) do not change any of the stations allocation considerations.

ALLOCATION STUDY, WBTN-FM, BENNINGTON, VT. CHANNEL 232A										
Callsign	State	City	Freq	Channel	ERP_w	Class	Status	Distance_km	Sep	Clr
WBAR-FM	NY	LAKE LUZERNE	94.7	234	320 A	APP		61.35	31	30.3
WBAR-FM	NY	LAKE LUZERNE	94.7	234	1250 A	LIC		61.34	31	30.3
WDTV	VT	RUTLAND	94.5	233	3000 A	LIC		74.94	72	2.9
WDTV	VT	RUTLAND	94.5	233	6000 A	APP		70.18	72	-1.8 73.215 per this applica
WKXP	NY	KINGSTON	94.3	232	880 A	LIC		134.82	115	19.8
WKXP	NY	KINGSTON	94.3	232	2250 A	LIC		134.82	115	19.8
WMAS-FM	MA	SPRINGFIELD	94.7	234	50000 B	LIC		104.11	69	35.1
WNYV	NY	WHITEHALL	94.1	231	3000 A	LIC		62.79	72	-9.2 73.213
WRSI	MA	TURNERS FALLS	93.9	230	2500 A	LIC		66.36	31	35.4
WYAI*	NY	SCOTIA	93.7	229	0 A	RSV		70.68	31	39.7
WYKV	NY	RAVENA	94.5	233	3000 A	LIC		71.41	72	-0.6 73.213

\*\* NOTE, THIS APPLICATION DOES NOT PROPOSE A CHANGE IN PHYSICAL OPERATION TO WBTN-FM, ONLY A CHANGE IN ASSIGNMENT WITH RESPECT TO WDTV (FM) FROM 73.207 TO 73.215.

Figure 2 indicates the 73.215 contour relationship between WDTV and WBTN-FM following the grant of this application.

## RESPONSE TO PARAGRAPH 17 - ENVIRONMENTAL CONSIDERATIONS

Although there will be no change in operating parameters for WBTN-FM, The WBTN-FM facilities were evaluated in terms of potential radiofrequency radiation exposure at 2 meters above ground level on channel 232A with a maximum effective radiated power of 3.0 kilowatts. The power density at 2 meters above ground level at the base of the tower was calculated using the FCC “FM Model for Windows” Power Density vs. Distance Calculator. Figure 3 is the program output for the existing Shively model 6813, 3-bay, 1.0-λ spaced, non-directional antenna.

According to the output of the FCC program, The WBTN-FM antenna will continue to generate a maximum power density of  $2.55 \mu\text{W}/\text{cm}^2$ , or 1.3% of the permitted level for uncontrolled exposure at 2 meters above ground and an antenna center of radiation height above ground level of 88 meters.

Based on the above information, the WBTN-FM facility fully complies with the FCC standard in regard to uncontrolled exposure to nonionizing radiation.

Respectfully Submitted

A handwritten signature in cursive script, reading "Bert Goldman". The signature is written in dark ink and is positioned above the printed name.

Bert Goldman

Goldman Engineering Mgmt. LLC.  
5948 Charlestown Dr.  
Dallas, TX. 75230

## FIGURE 1

### Antenna Height Above Average Terrain Calculations -- Input

Latitude **42 56 52.9 North**  
Longitude **73 10 33.9 West** (NAD 27)

Height of antenna radiation center above mean sea level [RCAMSL] = **473.6** meters

Number of Evenly Spaced Radials = 8      0° is referenced to True North

### Results:

**Calculated HAAT= 34. meters**

(Antenna Height Above Average Terrain)  
using the 30 second FCC/NGDC terrain data)

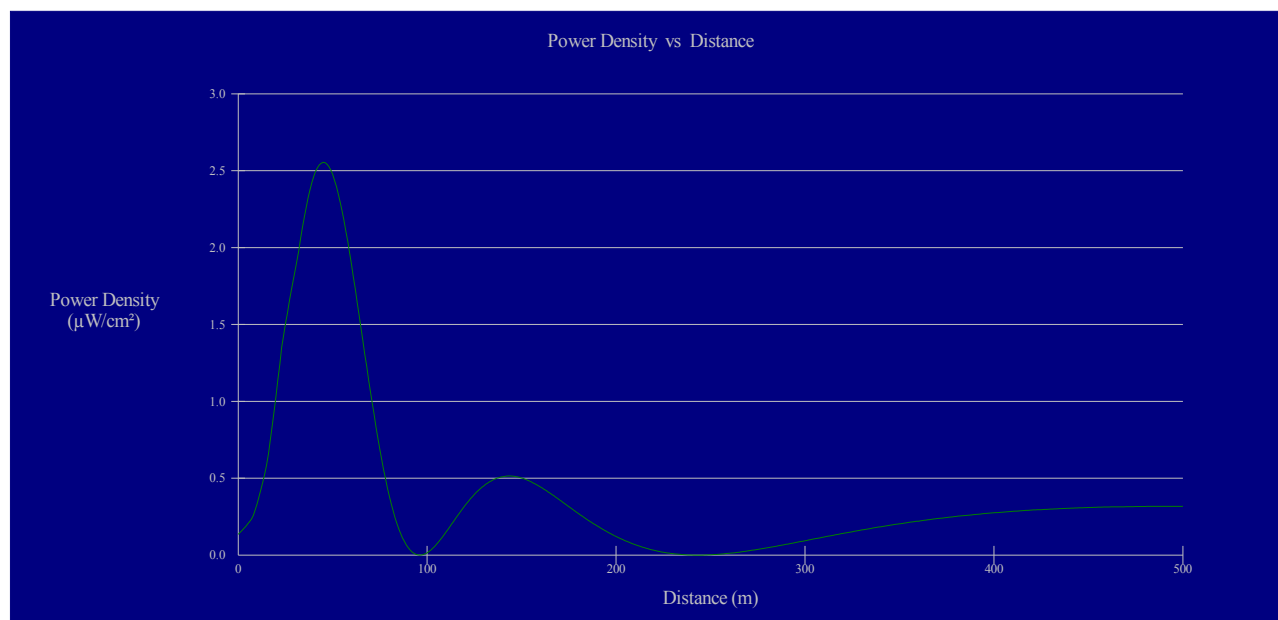
#### Antenna Radiation Center Heights Above Individual Radials:

0.0°	170.3 meters
45.0°	-227.0 meters
90.0°	-254.3 meters
135.0°	-193.5 meters
180.0°	180.5 meters
225.0°	235.3 meters
270.0°	266.6 meters
315.0°	96.2 meters

**FIGURE 2 WBTN-FM to WDTV (FM) CONTOUR  
PROTECTION**



FIGURE 3 WDVT POWER DENSITY  
@ 2M AGL, 3KW H+V, 88M AGL,  
SHIVELY 6813-3 (3 ELEMENT 1.0  $\lambda$ )



MAXIMUM POWER DENSITY = 2.55  $\mu\text{W}/\text{cm}^2$