

Comprehensive Engineering Exhibit
250-Mile Window Application
W275AT Four Corners, NJ
Facility ID No. 138571

This is a 250-Mile Window Application.

This exhibit is for a minor modification of W275AT, facility ID 138571 which is seeking a change in antenna location, change in antenna height, antenna type, channel and a change in power. The proposed facility will be a fill-in translator for WKIP (AM) Poughkeepsie, NY

Figure 1 is a map showing the proposed location is within the 250 mile radius from the presently permitted facility.

It is proposed to locate the transmit antenna 101 meters above ground on a registered tower in Poughkeepsie NY. It is proposed to utilize a Scala FMVMP-2, 2 bay vertically polarized directional with an ERP of 0.200KW.

Below as Figure 2 is a spacing study from which it can be determined that this proposal is within the protected contour of WGNV-FM which is on a second adjacent channel. With respect to all other authorized facilities this proposal will not create any prohibited contour overlap.

Section 74.1204(d) states that *"The provisions of this section concerning prohibited overlap will not apply where the area of such overlap lies entirely over water. In addition, an application otherwise precluded by this section will be accepted if it can be demonstrated that no actual interference will occur due to intervening terrain, lack of population or such other factors as may be applicable."*

We will demonstrate that a lack of population and/ or other factors allow this proposal to be compliant with 74.1204. The process commonly called "Living Way", as recently described in FCC 08-242 in connection with BPFT-19981001TA, allows for the use of U/D Analysis, also known as "signal strength ratio methodology." In this instant case the facilities of WGNV-FM and this proposal are second adjacent channels, which are to be afforded protection from signals 40 dB stronger.

Figure 3 is a map showing the predicted signal contour of WGNV-FM at the proposed translator location utilizing the FCC F50:50 curves. WGNV-FM is predicted to present a 66.1dBu signal level at the translator tower location. Also shown in Figure 3 are the contours of this proposal and that of the primary station 2mV/m contour along with its 25 mile radius.

The 106.1dBu contour (66.1dBu + 40 dB) of this proposal is the lowest value predicted to cause interference to WGNV-FM. Figure 4 depicts the predicted signal strength from the translator both at ground level, and at receiving antenna locations up to 4 meters above ground level of the translator. The 4 meter data is identified in the table as the "artificial plane," and as can be determined by the columns colored green, at no location from ground level to 4 meters above ground does the predicted signal of the proposed translator exceed that of 40 dB greater than the WGNV-FM 66.1dBu contour. Thus compliance with Section 74.1204(d) has been demonstrated.

Figure 5 is an aerial image showing that only single story buildings are in the vicinity of the tower.

RF Radiation Compliance

The proposed facilities were evaluated in terms of potential radio frequency radiation exposure at ground level in accordance with OET Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation."

The proposed antenna has been evaluated using "FM Model", as a worst case "Ring Stub" single bay being mounted with its center of radiation 101 meters above ground level, with an effective radiated power of 0.200 kilowatts in the vertical plane.

At 2 meters above the surface, at 22.8 meters from the closest point of approach, this proposal will contribute worst case, .650 microwatts per square centimeter, or 0.325% of the allowable limit for uncontrolled exposure. This figure is less than 5% of the applicable FCC exposure limit and thus is categorically excluded from environmental processing for purposes of RF compliance, pursuant to Section 1.1307(b)(3)(ii).

The tower is surrounded by a fence with a locked gate restricting access from the general public with appropriate warning signs posted. The applicant will cooperate with other users of the tower site to reduce power of the facility, or discontinue operation, as necessary to limit human exposure to levels less than specified by the Federal Communications Commission should anyone be required to climb the tower for maintenance or inspection.

Figure 1. 250 Mile Radius

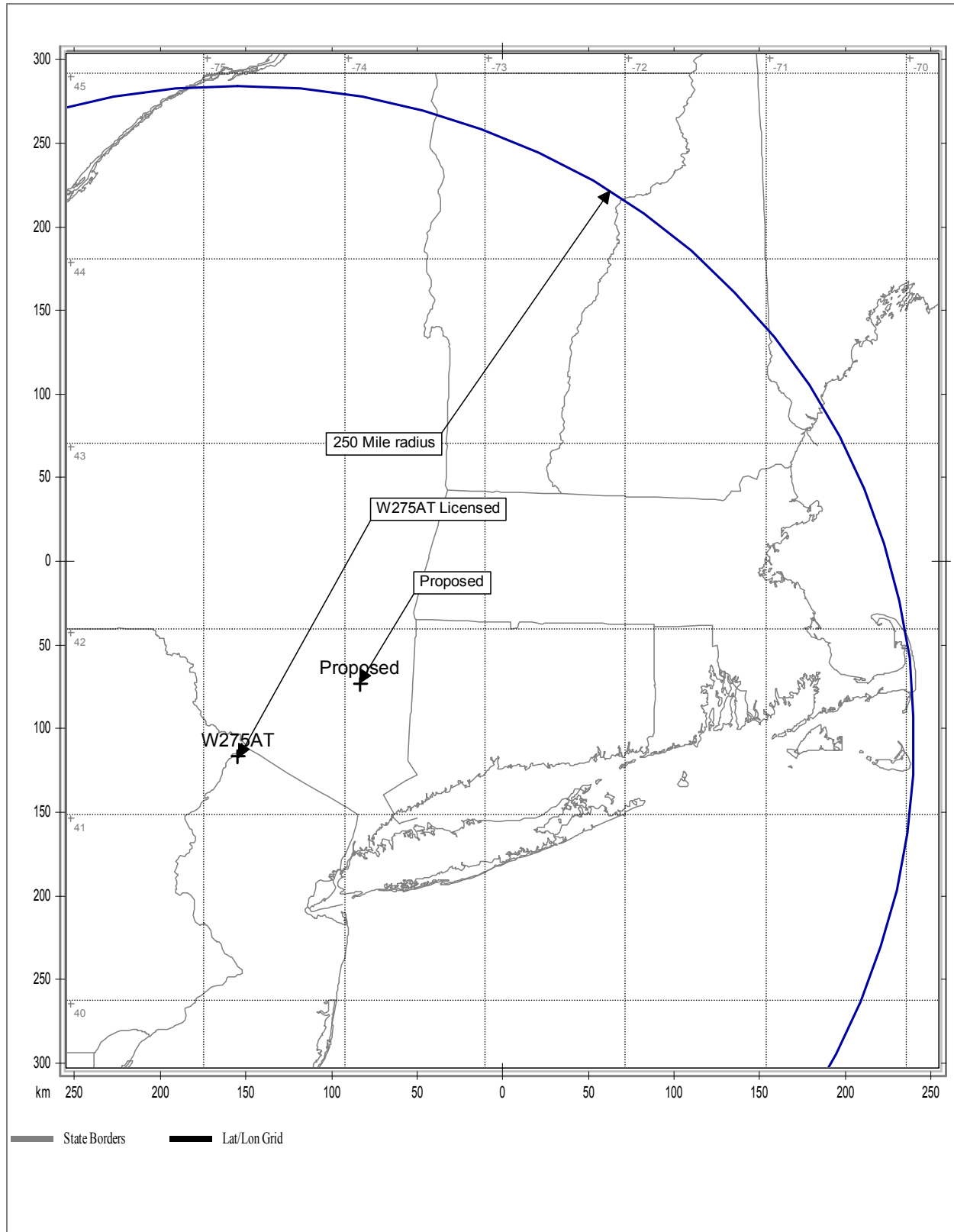


Figure 2. Spacing Study

Comstudy 2.2 Search of Channel 253 (98.5 MHz Class D) at 41-42-17.7 N, 73-53-15.5 W									
Callsign	State	City	Freq	Channel	ERP_w	Class	Status	Distance_km	Clr
WGNV-FM	NY	ROSENDALE	98.9	255	1350	A	LIC	17.33	-7.29 dB
WCTW	NY	CATSKILL	98.5	253	4700	A	LIC	55.25	0.02 dB
WKZE-FM	CT	SALISBURY	98.1	251	1800	A	LIC	35.35	3.90 dB
W253BQ	CT	MERIDEN	98.5	253	250	D	LIC	88.35	7.85 dB
WEPN-FM	NY	NEW YORK	98.7	254	6000	B	LIC	106.56	7.05 dB
WEPN-FM	NY	NEW YORK	98.7	254	4600	B	LIC	106.56	9.52 dB
WEPN-FM	NY	NEW YORK	98.7	254	29500	B	LIC	106.38	10.93 dB
WPLR	CT	NEW HAVEN	99.1	256	16000	B	LIC	84.13	10.89 dB
WPLR	CT	NEW HAVEN	99.1	256	15000	B	LIC	84.13	10.33 dB
WPLR	CT	NEW HAVEN	99.1	256	17500	B	LIC	84.11	11.32 dB
WPLR	CT	NEW HAVEN	99.1	256	16000	B	LIC	84.12	11.01 dB
WDAQ	CT	DANBURY	98.3	252	1300	A	LIC	52.01	12.35 dB
WSUL	NY	MONTICELLO	98.3	252	2200	A	LIC	66.76	16.94 dB
WSKQ-FM	NY	NEW YORK	97.9	250	6000	B	LIC	106.56	17.05 dB
WSKQ-FM	NY	NEW YORK	97.9	250	12500	B	LIC	105.7	17.45 dB
WEPN-FM	NY	NEW YORK	98.7	254	390	B	LIC	106.56	17.78 dB
WKRZ	PA	FREELAND	98.5	253	8700	B	LIC	170.84	17.79 dB
WKRZ	PA	FREELAND	98.5	253	9000	B	LIC	170.84	17.87 dB
WSUL	NY	MONTICELLO	98.3	252	1500	A	LIC	66.76	18.29 dB
WSKQ-FM	NY	NEW YORK	97.9	250	4600	B	LIC	106.56	19.41 dB
W254CG	NY	SCOTCHTOWN	98.7	254	99	D	CP	42.33	21.25 dB
WBON	NY	WESTHAMPTON	98.5	253	950	A	LIC	132.97	22.83 dB
WAWZ	NJ	ZAREPHATH	99.1	256	28000	B	LIC	134.27	26.09 dB
WRIP	NY	WINDHAM	97.9	250	580	A	LIC	71.6	26.97 dB
W254AU	MA	GREAT BARRINGTON	98.7	254	250	D	LIC	72.23	27.19 dB
WAWZ	NJ	ZAREPHATH	99.1	256	18000	B	LIC	134.27	27.89 dB
WBZ-FM	MA	BOSTON	98.5	253	16000	B	LIC	230.89	29.20 dB
WBZ-FM	MA	BOSTON	98.5	253	9000	B	LIC	230.58	29.07 dB
WKRZ*	PA	FREELAND	98.5	253	0	B	RSV	170.84	29.26 dB
WKJY	NY	HEMPSTEAD	98.3	252	3000	A	LIC	115.57	31.41 dB
WLZW	NY	UTICA	98.7	254	25000	B	LIC	191.98	31.05 dB
W252AS	CT	NEW HAVEN	98.3	252	19	D	LIC	88.77	31.49 dB
W253AF	VT	BENNINGTON	98.5	253	42	D	LIC	143.02	32.14 dB
W252CS	NY	BROOKLYN	98.3	252	24	D	LIC	112.04	33.62 dB
W252BG	MA	LEE	98.3	252	13	D	LIC	85.83	34.00 dB
WHWK	NY	BINGHAMTON	98.1	251	6700	B	LIC	175.36	34.56 dB
WUCS	CT	WINDSOR LOCKS	97.9	250	3400	A	LIC	100.93	35.57 dB
WAAL	NY	BINGHAMTON	99.1	256	8700	B	LIC	175.77	35.43 dB
WBBO	NJ	OCEAN ACRES	98.5	253	3400	A	LIC	223.53	35.79 dB
WTRY-FM	NY	ROTTERDAM	98.3	252	6000	A	LIC	116.53	36.38 dB

Figure 3. Contour Map

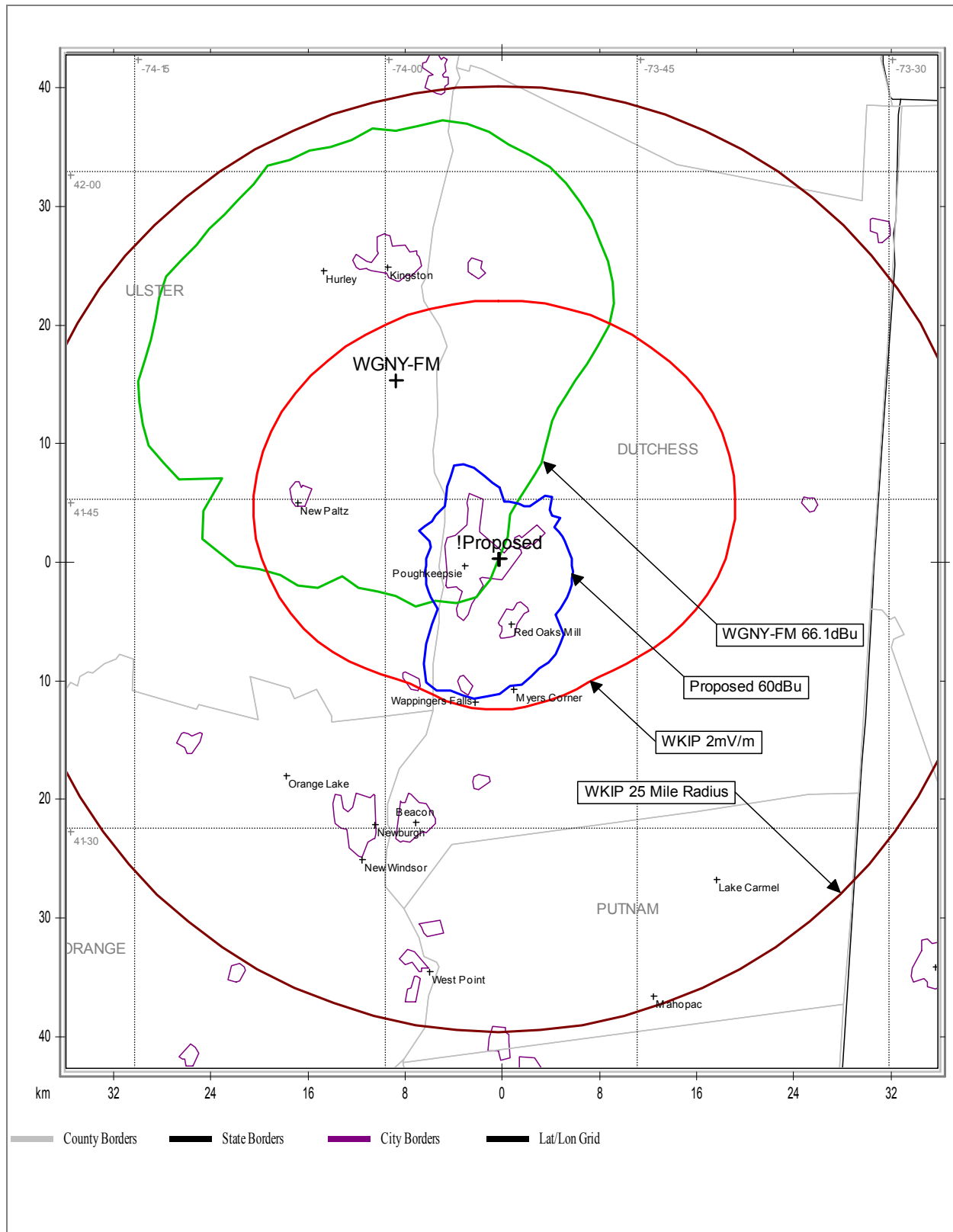


Figure 4. Distance to Interference Contour with Antenna Vertical Pattern

Proposed Antenna: Scala FMVMP-2 Proposed Power: 0.2 kW Antenna Height AGL: 101 meters Interference Contour: 106.1 dBu f(50:10) Artificial Rcv Antenna Height: 4 meters Distance (Free Space) Equation: $= (10^{((106.92 - [\text{desired dBu}] + [\text{ERP in dBk}]) / 20)}) * 1000$ Field Strength (dBu) Equation $= 106.92 - (20 * (\text{LOG10}[\text{DistMeters} / 1000])) + [\text{ERP in dBk}]$								
Depression				Distance				
Angle	Antenna			from Ant.	Distance	Field Strength	Distance	Field Strength
Below	Relative	ERP	ERP	to Interf	from Ant. to	in dBu @	from Ant.	in dBu @
Horizon	Field	in kW	in dBk	Contour	Artificial Plane	Artificial Plane	to Ground Level	Ground Level
0°	1.000	0.200	-6.99	491.49 m	infinite	---	infinite	---
-5°	0.967	0.187	-7.28	475.27 m	1112.95 m	98.71 dBu	1158.85 m	98.36 dBu
-10°	0.873	0.152	-8.17	429.07 m	558.60 m	103.81 dBu	581.64 m	103.46 dBu
-15°	0.726	0.105	-9.77	356.82 m	374.78 m	105.67 dBu	390.23 m	105.32 dBu
-20°	0.545	0.059	-12.26	267.86 m	283.61 m	105.60 dBu	295.30 m	105.25 dBu
-25°	0.350	0.025	-16.11	172.02 m	229.52 m	103.60 dBu	238.99 m	103.24 dBu
-30°	0.163	0.005	-22.75	80.11 m	194.00 m	98.42 dBu	202.00 m	98.07 dBu
-35°	0.010	0.000	-46.99	4.91 m	169.11 m	75.37 dBu	176.09 m	75.02 dBu
-40°	0.119	0.003	-25.48	58.49 m	150.91 m	97.87 dBu	157.13 m	97.52 dBu
-45°	0.198	0.008	-21.06	97.32 m	137.18 m	103.12 dBu	142.84 m	102.77 dBu
-50°	0.235	0.011	-19.57	115.50 m	126.62 m	105.30 dBu	131.85 m	104.95 dBu
-55°	0.240	0.012	-19.39	117.96 m	118.42 m	106.07 dBu	123.30 m	105.72 dBu
-60°	0.222	0.010	-20.06	109.11 m	112.01 m	105.87 dBu	116.62 m	105.52 dBu
-65°	0.189	0.007	-21.46	92.89 m	107.03 m	104.87 dBu	111.44 m	104.52 dBu
-70°	0.148	0.004	-23.58	72.74 m	103.23 m	103.06 dBu	107.48 m	102.71 dBu
-75°	0.105	0.002	-26.61	51.36 m	100.42 m	100.28 dBu	104.56 m	99.93 dBu
-80°	0.060	0.001	-31.43	29.49 m	98.50 m	95.62 dBu	102.56 m	95.27 dBu
-85°	0.018	0.000	-41.88	8.85 m	97.37 m	85.27 dBu	101.39 m	84.92 dBu
-90°	0.023	0.000	-39.76	11.30 m	97.00 m	87.43 dBu	101.00 m	87.08 dBu

Figure 5. Ariel Image of Proposed Location

