Technical Statement
Application for Construction Permit
W258CU Facility ID 157070 Redwood, NY
July, 2016

The purpose of this application is to make changes in W258CU at Redwood, NY. Six changes are proposed: (1) Change the Primary Station; (2) Change the Effective Radiated Power; (3) Change the channel; (4) change the antenna elevation; (5) change the transmit antenna and (6) change the community of license..

Discussion

The proposed facility will be classified as a translator for co-owned non-commercial station WJZZ(FM) at Montgomery, NY (Facility ID 89510). The transmitter location will not change but the antenna elevation will increase to 45 meters above ground level on an existing 54 meter tall communications structure. The Channel will change from 258 to 205 (53 channels) and will operate at 19 watts with a non-directional antenna. The proposal is fully spaced to all other facilities with one exception, WPPB(FM), Southhampton, NY operating on third adjacent channel 202. A waiver request is included herein relative to WPPB(FM).

The proposed facility will operate at 19 watts with a non-directional antenna. The 60 dBu contours for the proposed translator facility and the primary station will not overlap; however, this is permissible for non-commercial facilities operating in the reserved band.

Waiver Request – WPPB(FM)

WPPB(FM) operates on third adjacent channel 202 (88.3 mHz). It is determined that WPPB(FM) has a signal level of 72.5 dBu at the proposed translator site. In order for actual interference to occur, the interfering signal must be 40 db greater than the protected signal. By taking into account the 72.5 dBu signal from WPPB(FM) and adding 40 dBu to it, the interfering contour then becomes 112.5 dBu. The below chart shows the distances to the 112.5 dBu contour considering the radiation characteristics of the proposed antenna. The chart shows that the interfering contour is no less than 12.795 meters above level ground level and there is no population in this area above ground level.

Depression Angle from Horizon	Antenna Relative Field	ERP (kw) from the Antenna RF	Dist. To IX Contour (m)	Height IX Contour Above Ground (m)
0	1.000	0.0190	72.5065	45.000
5	0.999	0.0190	72.4340	38.687
10	0.982	0.0183	71.2014	32.636
15	0.954	0.0173	69.1712	27.097
20	0.918	0.0160	66.5609	22.235
25	0.872	0.0144	63.2256	18.280
30	0.818	0.0127	59.2740	15.363
35	0.758	0.0109	54.9599	13.476
40	0.691	0.0091	50.1020	12.795
45	0.616	0.0072	44.6640	13.418
50	0.538	0.0055	39.0085	15.118
55	0.465	0.0041	33.7155	17.382
60	0.391	0.0029	28.3500	20.448
65	0.313	0.0019	22.6945	24.432
70	0.239	0.0011	17.3290	28.716
75	0.176	0.0006	12.7611	32.674
80	0.129	0.0003	9.3533	35.789
85	0.103	0.0002	7.4682	37.560
90	0.104	0.0002	7.5407	37.459

It is therefore believed the proposed facility is in compliance with 74.1204 with regard to contour overlap.

The proposed translator antenna elevation is compliant with 74.1235 pertaining to Power Limitations. Specifically, the Effective Radiated Power (ERP) on each of the twelve radials used in determining Height Above Average Terrain (HAAT) does not exceed the Maximum ERP permitted on each of the radials based on its individual HAAT. The following table details this conclusion.

Bearing	Radial HAAT	Permitted ERP	Actual ERP
0	105	19	19
30	105	19	19
60	101	19	19
90	86	27	19
120	100	19	19
150	103	19	19
180	103	19	19
210	89	27	19
240	103	19	19
270	106	19	19
300	104	19	19
330	105	19	19
Degrees	**meters**	**watts**	**Watts**