Purpose of Application & Technical Statement

This minor change to the licensed facility requests a change of tower location, elevation and antenna at an increased effective radiated power on the authorized operating channel. The translator will be used as a fill-in translator for noncommercial Primary Station WAYF which is collocated on the same tower, thus meeting the fill-in contour requirements. The translator will repeat the HD-2 channel of the primary station.

OVERLAP REQUIREMENTS

The attached map of contours depicts the proposed allocation situation with respect to all pertinent co and adjacent facilities. All facilities have been depicted utilizing either the maximum ERP or directional pattern data as on file with the commission and 1 degree radial intervals on close in contours in the interest of accuracy. AAT data for the proposed facility was derived from the FCC's 30 second database, *Comstudy*.

As seen on the attached map of contours, channel 212-D is operable at the proposed location with the following facility notes:

- In compliance with 47 CFR 74.1204(g)the proposed facility operates at an effective radiated power which is over 100 watts, therefore protection to intermediate frequency facilities has been calculated and meets all mileage separation requirements.

- The proposed location is within the protected 60dbu (50,50) contour of second-adjacent station WFLV (FM) channel 214C1 located 400 meters away. Therefore, an interference analysis has been conducted based on the u/d ratio of +40 dB at the proposed site. The signal of WFLV (FM) at the proposed location is approximately 142 dBu (50,50) making the relevant interfering contour of the proposed facility 182 dBu (50,10), which would extend less than 1 meter from the aperture of the transmitting antenna.

- The proposed location is slightly within the protected 60dbu (50,50) contour of second-adjacent station WCNO (FM) channel 210C1 located 62km away. Therefore, an interference analysis has been conducted based on the u/d ratio of +40 dB at the proposed site. The signal of WFLV (FM) at the proposed location is approximately 60 dBu (50,50) making the relevant interfering contour of the proposed facility 100 dBu (50,10), which would extend approximately 1.1km from the transmitting antenna under worse-case single dipole conditions.

- The applicant proposes to use the Scala HDCA-5CP two-bay antenna array with the characteristics in the attached chart. The vertical field values were provided by the manufacturer and the calculations demonstrate that the interfering contour will not reach a point closer than 186 meters above the ground at any depression angle from the antenna.

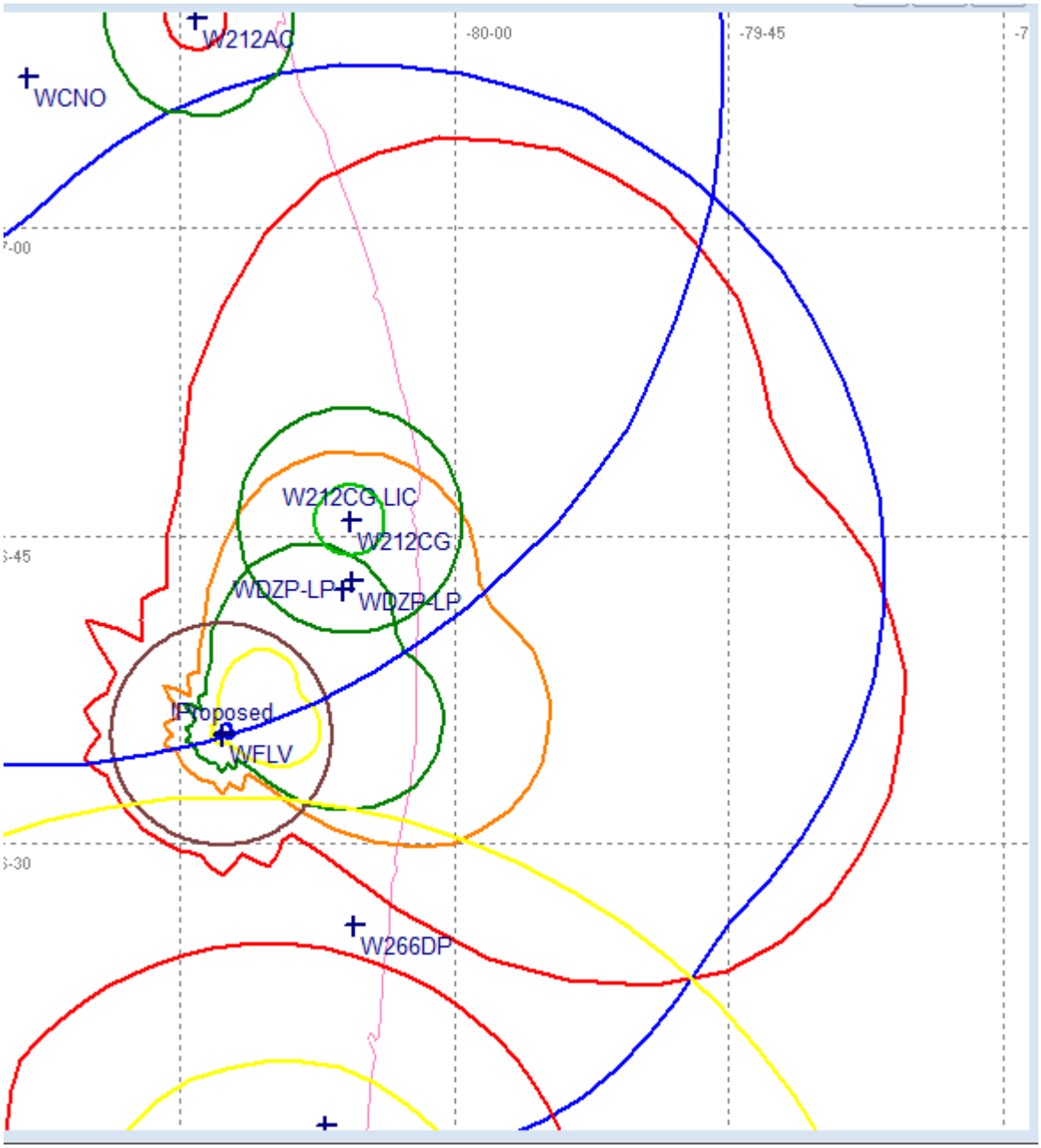
Based on this showing, a waiver of section 74.1204 is requested in accordance with Living Way Ministries, Inc. (FCC 08-242) on the basis of zero population in the area of interference.

It should be noted that should any actual real world interference occur, the applicant acknowledges that it will promptly suspend operation of this translator in accordance with 47 CFR. 74.1203.

CONTOURS

The attached map of contours utilizes FCC 30 Sec Terrain underlay only and for compliance demonstration the tabular data for the licensed, proposed and primary station 60dbu contours is attached.

MAP OF INTERFERING CONTOURS



Proposed Facility:
Blue - 100dBu(50,10)
Green - 60dBu(50,50)
Orange - 54dBu(50,10)
Red - 40dBu (50,10)

Other Facilities 60dBu(50,50):
Co-Channel - Red
First Adjacent - Orange
Second/Third Adjacent – Blue
WKAK(FM) 91.8dBu (50,50) - Blue

Proposed Primary Station:
Black – 60dBu(50,50)

ANTENNA CHART:

SCALA

2 Bay Model HDCA5-CP RM Circularly Polarized FM Antenna 0.87 Spacing

Frequency =	90.3	Mhz	ERP=	250	watts
Interfering Contour	100	dBu (50,10)	Height =	232	m AGL

Depression Angle	Relative Field (o)	Effective Power (w)	Distance to Contour (m)	Distance from Antenna to Ground (m)	Clearance (m)
1	0.996	248.0	1,104.66	17,723.35	16619
2	0.996	248.0	1,104.66	8,863.33	7759
3	0.981	240.6	1,088.03	5,310.38	4822
4	0.971	235.7	1,076.93	4,434.36	3357
5	0.958	229.4	1,062.52	3,549.11	2487
6	0.942	221.8	1,044.77	2,959.25	1914
7	0.924	213.4	1,024.81	2,538.17	1513
8	0.904	204.3	1,002.62	2,222.60	1220
9	0.882	194.5	978.22	1,977.35	999
10	0.859	184.5	952.72	1,781.34	829
11	0.931	216.7	1,032.57	1,621.13	589
12	0.801	160.4	888.39	1,487.77	599
13	0.770	148.2	854.01	1,375.08	521
14	0.738	136.2	818.51	1,278.62	460
15	0.705	124.3	781.91	1,195.14	413
16	0.668	111.6	740.88	1,122.22	381
17	0.631	99.5	699.84	1,057.99	358
18	0.593	87.9	657.70	1,001.00	343
19	0.555	77.0	615.55	950.11	335
20	0.517	66.8	573.40	904.41	331
21	0.478	57.1	530.15	863.15	333
22	0.439	48.2	486.69	825.73	339
23	0.400	40.0	443.64	791.66	348
24	0.362	32.8	401.49	760.51	359
25	0.324	26.2	359.35	731.93	373
26	0.287	20.6	318.31	705.62	387
27	0.250	15.6	277.27	681.35	404
28	0.215	11.6	238.46	658.88	420
29	0.181	8.2	200.75	638.04	437
30	0.147	5.4	163.04	618.65	456
31	0.115	3.3	127.55	600.59	473
32	0.085	1.8	94.27	583.72	489
33	0.056	0.8	62.11	567.95	506
34	0.028	0.2	31.05	553.16	522
35	0.010	0.0	11.09	539.29	528
36	0.022	0.1	24.40	526.26	502
37	0.045	0.5	49.91	513.99	464
38	0.066	1.1	73.20	502.43	429
39	0.085	1.8	94.27	491.52	397
40	0.102	2.6	113.13	481.23	368
41	0.118	3.5	130.87	471.49	341
42	0.131	4.3	145.29	462.28	317
43	0.143	5.1	158.60	453.56	295
44	0.154	5.9	170.80	445.29	274
45	0.162	6.6	179.67	437.45	258

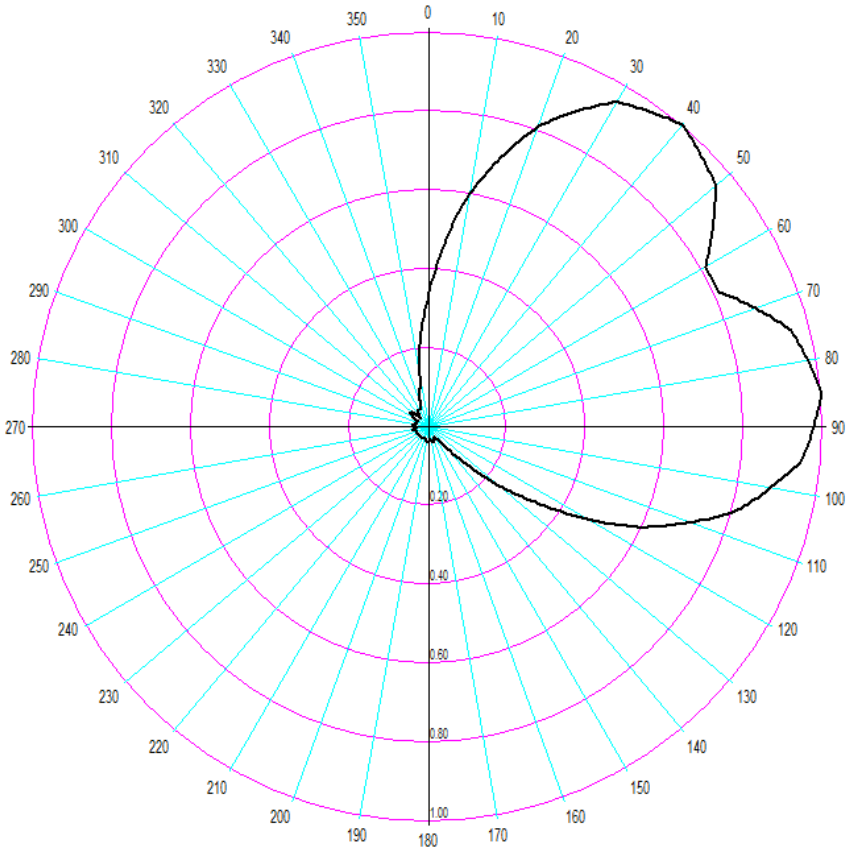
Depression Angle	Relative Field	Effective Power (w)	Distance to Contour (m)	Distance from Antenna to Ground (m)	Clearance (m)
46	0.169	7.1	187.44	430.01	243
47	0.174	7.6	192.98	422.95	230
48	0.178	7.9	197.42	416.24	219
49	0.181	8.2	200.75	409.86	209
50	0.181	8.2	200.75	403.80	203
51	0.182	8.3	201.86	398.03	196
52	0.181	8.2	200.75	392.54	192
53	0.179	8.0	198.53	387.32	189
54	0.176	7.7	195.20	382.35	187
55	0.172	7.4	190.76	377.62	187
56	0.169	7.1	187.44	373.11	186
57	0.164	6.7	181.89	368.83	187
58	0.159	6.3	176.35	364.75	188
59	0.152	5.8	168.58	360.87	192
60	0.145	5.3	160.82	357.18	196
61	0.141	5.0	156.38	353.67	197
62	0.136	4.6	150.84	350.33	199
63	0.130	4.2	144.18	347.16	203
64	0.124	3.8	137.53	344.16	207
65	0.118	3.5	130.87	341.30	210
66	0.118	3.5	130.87	338.60	208
67	0.118	3.5	130.87	336.04	205
68	0.117	3.4	129.76	333.62	204
69	0.117	3.4	129.76	331.33	202
70	0.116	3.4	128.66	329.18	201
71	0.117	3.4	129.76	327.15	197
72	0.117	3.4	129.76	325.24	195
73	0.117	3.4	129.76	323.46	194
74	0.118	3.5	130.87	321.79	191
75	0.118	3.5	130.87	320.24	189
76	0.120	3.6	133.09	318.80	186
77	0.122	3.7	135.31	317.46	182
78	0.124	3.8	137.53	316.24	179
79	0.125	3.9	138.64	315.12	176
80	0.127	4.0	140.86	314.10	173
81	0.130	4.2	144.18	313.18	169
82	0.132	4.4	146.40	312.37	166
83	0.135	4.6	149.73	311.65	162
84	0.137	4.7	151.95	311.03	159
85	0.139	4.8	154.16	310.51	156
86	0.140	4.9	155.27	310.08	155
87	0.141	5.0	156.38	309.75	153
88	0.142	5.0	157.49	309.51	152
89	0.143	5.1	158.60	309.37	151
90	0.144	5.2	0.00	309.33	309

NOTES:

- HEIGHT HAS BEEN REDUCED BY 2 METERS TO ALLOW FOR HUMAN EXPOSURE
- DISTANCE FROM ANTENNA TO GROUND IS ACTUALLY TO A POINT 2 METERS ABOVE GROUND

ANTENNA PATTERN

ComStudy *HDCA5CP45DEG* *Horizontal Pattern*



Azim	Rel.FS	ERP [W]	dBk
0.0	0.330	27.235	-15.649
5.0	0.465	54.076	-12.670
10.0	0.600	90.033	-10.456
15.0	0.705	124.302	-9.055
20.0	0.810	164.086	-7.849
25.0	0.880	193.672	-7.129
30.0	0.950	225.708	-6.465
35.0	0.975	237.744	-6.239
40.0	1.000	250.092	-6.019
45.0	0.975	237.744	-6.239
50.0	0.950	225.708	-6.465
55.0	0.880	193.672	-7.129
60.0	0.810	164.086	-7.849
65.0	0.810	164.086	-7.849
70.0	0.880	193.672	-7.129
75.0	0.950	225.708	-6.465
80.0	0.975	237.744	-6.239
85.0	1.000	250.092	-6.019

Azim	Rel.FS	ERP [W]	dBk
90.0	0.975	237.744	-6.239
95.0	0.950	225.708	-6.465
100.0	0.880	193.672	-7.129
105.0	0.810	164.086	-7.849
110.0	0.705	124.302	-9.055
115.0	0.600	90.033	-10.456
120.0	0.465	54.076	-12.670
125.0	0.330	27.235	-15.649
130.0	0.220	12.104	-19.171
135.0	0.110	3.026	-25.191
140.0	0.050	0.625	-32.040
145.0	0.030	0.225	-36.477
150.0	0.030	0.225	-36.477
155.0	0.035	0.306	-35.138
160.0	0.040	0.400	-33.978
165.0	0.035	0.306	-35.138
170.0	0.030	0.225	-36.477
175.0	0.035	0.306	-35.138

Azim	Rel.FS	ERP [W]	dBk
180.0	0.040	0.400	-33.978
185.0	0.035	0.306	-35.138
190.0	0.030	0.225	-36.477
195.0	0.030	0.225	-36.477
200.0	0.030	0.225	-36.477
205.0	0.030	0.225	-36.477
210.0	0.030	0.225	-36.477
215.0	0.030	0.225	-36.477
220.0	0.030	0.225	-36.477
225.0	0.030	0.225	-36.477
230.0	0.030	0.225	-36.477
235.0	0.030	0.225	-36.477
240.0	0.030	0.225	-36.477
245.0	0.030	0.225	-36.477
250.0	0.030	0.225	-36.477
255.0	0.035	0.306	-35.138
260.0	0.040	0.400	-33.978
265.0	0.035	0.306	-35.138

Azim	Rel.FS	ERP [W]	dBk
270.0	0.030	0.225	-36.477
275.0	0.035	0.306	-35.138
280.0	0.040	0.400	-33.978
285.0	0.035	0.306	-35.138
290.0	0.030	0.225	-36.477
295.0	0.030	0.225	-36.477
300.0	0.030	0.225	-36.477
305.0	0.045	0.506	-32.955
310.0	0.060	0.900	-30.456
315.0	0.045	0.506	-32.955
320.0	0.030	0.225	-36.477
325.0	0.040	0.400	-33.978
330.0	0.050	0.625	-32.040
335.0	0.050	0.625	-32.040
340.0	0.050	0.625	-32.040
345.0	0.080	1.601	-27.957
350.0	0.110	3.026	-25.191
355.0	0.220	12.104	-19.171