

CITY OF LICENSE
FACILITY ID
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VERSION
JOB

Syracuse, NY
197053
Syracuse Community Radio, Inc.
1.0
113140-AMD

CONSOLIDATED

ENGINEERING EXHIBIT

FCC Form 318
Section VI - LPFM Engineering, Tech Box

**ENGINEERING STATEMENT
PROPOSED MAJOR MODIFICATION
OF PENDING APPLICATION BNPL-20131114ADZ
FOR A NEW LPFM STATION AT SYRACUSE, NY
Syracuse Community Radio, Inc.**

SUMMARY:

The applicant hereby submits this major amendment of a pending application for a new LPFM station. This application seeks a move to non-adjacent channel 277, to relieve its mutually exclusivity with all other applicants in MX Group 264. This application is being filed in response to Public Notice 13-132¹, which allows major amendments during a 90-day period. The channel, location, ERP, structure height, and antenna height are modified by this proposal.

This proposal is short-spaced to a second-adjacent station. Contour protection is provided by the D/U method, in compliance with 73.807(e)(1). **See Exhibit 11.** A waiver of second-adjacent spacing is hereby requested.

PERTINENT SPECIFICATIONS NOT INCLUDED IN SECTION VI - TECH BOX:

HAAT:	-9 meters
ERP:	100 watts
DATA SOURCE:	V-Soft FMCommander with HAAT Method 0(zero); FCC 30 Second Terrain
SUPPORT STRUCTURE:	Existing pole on ground

¹Released September 5, 2014; COMMISSION IDENTIFIES TENTATIVE SELECTEES IN 111 GROUPS OF MUTUALLY EXCLUSIVE APPLICATIONS FILED IN THE LPFM WINDOW; ANNOUNCES A 30-DAY PETITION TO DENY PERIOD AND A 90-DAY PERIOD TO FILE VOLUNTARY TIME-SHARE PROPOSALS AND MAJOR CHANGE AMENDMENTS

EXHIBIT 11 INTERFERENCE

New LPFM - Change to sh277
Syracuse Community Radio, Inc.

REFERENCE		CLASS = L1 Int = L1	DISPLAY DATES
43 07 09.0 N.		Current Spacings to 2nd Adj.	DATA 09-11-14
76 13 32.0 W.		Channel 277 - 103.3 MHz	SEARCH 09-11-14

Call	Channel	Location	Azi	Dist	FCC	Margin
WMHR	LIC 275B	Syracuse NY	173.0	17.03	67.0	-50.0*
Commercial Channel Operating Educational						
W278AH	LIC-D 278D	Syracuse, Jamesville NY	152.6	20.51	21.0	-0.49**
WUUF	LIC-Z 278A	Sodus NY	282.6	77.82	56.0	21.8
Class B1 with respect to Canada-Accepted by Canada on 901108						
WQNY	LIC 279B	Ithaca NY	204.1	89.16	67.0	22.2
W279CK	CP 279D	Durhamville NY	97.3	45.77	14.0	31.8

Reference station has protected zone issue:

*Interference Protection shown by ratio method, with lack of population.
See below.

**Fully spaced with allowable rounding.

PROTECTED ZONES REPORT:

Protected zones report for 1594389 on channel 277L1 09-11-2014

Lat. 43 07 09.0 Lng. 76 13 32.0, ERP= 0.1 kw, HAAT= -9.3M

*** Station must coordinate with Canada. Distance to border = 73.8 km.

Facility is okay with respect to AM station towers.

Closest AM Facility is WHEN, SYRACUSE, NY, L, DAN at 135.6° at a distance of 4.2 km

Facility is okay with respect to FCC monitoring stations.

Closest FCC Monitoring Station is 87.9 km= Canandaigua, NY

Facility is okay toward West Virginia Quiet Zone. Distance to center = 595.0 km

Facility is okay toward Table Mountain. Distance to Center = 2440.5 km, Azimuth = 272.1 Degrees True

BROWN BROADCAST SERVICES
INCORPORATED

Michael D. Brown

3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

CONTOUR PROTECTION TO 2ND-ADJACENT STATIONS:

Contour protection to 2nd-adjacent station WMHR is provided using the ratio method. The F(50/50) contour of WMHR is 84.7dBu at the proposed site. Using the appropriate U/D ratio of 40dB vs. WMHR, the corresponding interfering contour of the proposed LPFM is 124.7dBu and the Distance to Contour is 40.8 meters. However, the field strength of the proposed antenna system falls quickly at depression angles below the horizon.

The proposed 2-bay, 3/4-wave-spaced SWR FMEC/2-.75WS antenna would be mounted on an existing 18 meter pole at 16m AGL. There are two 2-story houses within 40.8 meters of the pole, with an upper floor 3 meters above the ground. Therefore the uppermost populated area is 13m below the antenna center of radiation. Using elevation pattern data provided by SWR, the distance to the 124.7dBu contour at various depression angles is tabulated in **Exhibit 11a**. It shows that the interference contour does not reach the uppermost populated area, 13m below the antenna. Therefore, there are no populated areas within the interference zone.

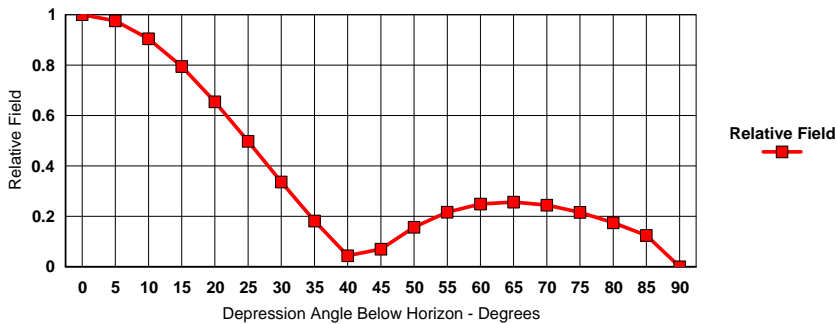
Exhibit 11a

2nd ADJACENT INTERFERENCE PROTECTION TO POPULATED AREAS

CALL LETTERS OR FILE NUMBER	NEW	
PROPOSED COMMUNITY OF LICENSE	Syracuse	
INTERFERING CONTOUR OF PROPOSAL - dBu	124.70	
INTERFERING COUNTOUR OF PROPOSAL - <V/m	1.7179	
2nd-ADJ STN REQUIRING INTERFERENCE PROT. (worst case)	WMHR, Syracuse, NY	
PROP. ERP (W)	100	
ANTENNA MODEL	SWR FMEC/2-.75WS	
NOTES	Antenna is 16m AGL, and 13m above the uppermost populated area - the 2nd floor of a nearby building	

Depression Angle Below Horizon (dg)	Relative Field	ERP (W)	Angular Dist. to IX Contour (m)	Vertical Dist. to IX (below antenna)(m)	Horiz Dist. to IX Contour (m)	Vertical Dist Below Antenna to Uppermost Populated Area (m)	Clearance of IX Above Populated Areas (m)
0	1	100.00	40.81	0.0	40.8	13	13.0
5	0.976	95.26	39.83	3.5	39.7	13	9.5
10	0.905	81.90	36.93	6.4	36.4	13	6.6
15	0.795	63.20	32.44	8.4	31.3	13	4.6
20	0.655	42.90	26.73	9.1	25.1	13	3.9
25	0.498	24.80	20.32	8.6	18.4	13	4.4
30	0.337	11.36	13.75	6.9	11.9	13	6.1
35	0.182	3.31	7.43	4.3	6.1	13	8.7
40	0.044	0.19	1.80	1.2	1.4	13	11.8
45	0.07	0.49	2.86	2.0	2.0	13	11.0
50	0.157	2.46	6.41	4.9	4.1	13	8.1
55	0.217	4.71	8.85	7.3	5.1	13	5.7
60	0.249	6.20	10.16	8.8	5.1	13	4.2
65	0.257	6.60	10.49	9.5	4.4	13	3.5
70	0.245	6.00	10.00	9.4	3.4	13	3.6
75	0.216	4.67	8.81	8.5	2.3	13	4.5
80	0.175	3.06	7.14	7.0	1.2	13	6.0
85	0.125	1.56	5.10	5.1	0.4	13	7.9
90	0	0.00		0.0	0.0	13	13.0

Antenna Elevation Pattern



Clearance of IX Contour Above Populated Areas

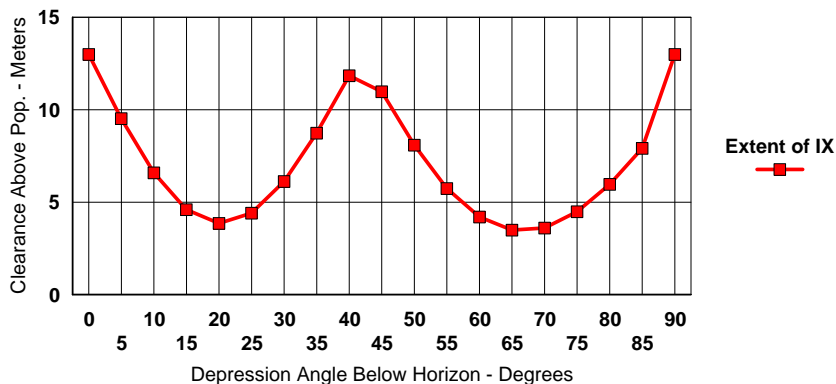


EXHIBIT 12

INTERFERENCE TO TRANSLATOR OR BOOSTER INPUT SIGNALS

No translators are located within 2 km of the proposed LPFM site. Also, of the translators within 10 km of the proposed site, none have input frequencies that are 3rd - adjacent to the proposed LPFM frequency.

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EXHIBIT 14

ENVIRONMENTAL PROTECTION ACT / NIER ANALYSIS

The applicant proposes mounting a new antenna on an existing 18 meter pole. The proposed center of radiation is 16m AGL. A 2 bay 3/4 wavelength-spaced SWR FMEC/2-.75WS antenna is proposed. This antenna is the functional equivalent of the Jampro "Double-V" series. Calculations were made using FM Model for Windows, version 2.10, using the "Jampro "Double-V"" setting. FM Model predicted a peak exposure of $2.0\mu\text{W}/\text{cm}^2$, at 5.6 meters from the tower. This represents 1.0% of the Maximum Permissible Exposure (MPE) of $200\mu\text{W}/\text{cm}^2$ for uncontrolled environments. 47 CFR §1.1307(b)(3) exempts applicants from preparing an Environmental Assessment when the predicted exposure levels would be less than 5% of the FCC limits.

The metal pole is inherently unclimbable, so no anti-climb device is necessary. The site will be posted with appropriate RF exposure warning signs. If work on the pole becomes necessary, transmitter power will be reduced or operation will cease, as necessary, so as to not exceed the RF exposure limits.