CITY OF LICENSE	Schenectady, NY
FACILITY ID	194922
PREPARED FOR	Troy Bike Rescue Inc.
VERSION	1.0
JOB	114064

CONSOLIDATED ENGINEERING EXHIBIT

FCC Form 318

Section VI - LPFM Engineering, Tech Box

BROWN BROADCAST SERVICES
INCORPORATED
Michael D. Brown 3740 S.W. Comus St. Portland, Oregon 97219-7418 503-245-6065

ENGINEERING STATEMENT
PROPOSED MAJOR AMENDMENT
OF PENDING APPLICATION BNPL-20131114AAX
FOR A NEW LPFM STATION AT SCHENECTADY, NY
Troy Bike Rescue 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 240, to relieve its mutually exclusivity with all other applicants in MX Group 263 and create a grantable singleton. This application is being filed in response to Public Notice 14-132[1], which allows major amendments during a 90-day period. The community of license, channel, location, ERP, structure height, and antenna height are modified by this proposal.

This proposal is short-spaced to two second-adjacent stations. 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.

This is a reduced power proposal. The computed HAAT is 34.4 meters, with a corresponding maximum ERP of 78 watts. The ERP proposed herein is 50 watts in full compliance with the minimum power provisions of 47 CFR §73.811(b).

PERTINENT SPECIFICATIONS NOT INCLUDED IN SECTION VI - TECH BOX:

HAAT:	34.4 meters
PROPOSED ERP:	50 watts
DATA SOURCE: `	V-Soft FMCommander with HAAT Method 0(zero); FCC 30 Second Terrain

[1]Released 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

Troy Bike Rescue

REFERENCE
42 48 30.0 N.
73 53 59.0 W.

CLASS = L1 Int = L1
Current Spacings to 2nd Adj.

DISPLAY DATES
DATA 12-02-14
SEARCH 12-07-14

Channel 240 - 95.9 MHz

Call	Channel	Location		Azi	Dist	FCC	Margin
WYJB	LIC	238B Albany	NY	203.2	20.79	67.0	-46.2*
WAJZ	LIC-N	242A Voorheesville	NY	203.3	20.80	29.0	-8.2*
WBEC-FM	LIC	240A Pittsfield	MA	131.0	66.95	67.0	-0.05**
Accepted by Canada 940207							
AL8455	RSV-A	240A Queensbury	NY	15.4	68.61	67.0	1.6
Ch. of Community from Glens Falls							
WCQL	LIC	240A Queensbury	NY	9.4	68.89	67.0	1.9
W242AL	LIC	242D Buskirk	NY	65.3	41.32	8.0	33.3
WODZ-FM	LIC	241B1 Rome	NY	290.2	110.83	74.0	36.8

RSV-R = reserved - needs protection, RSV-A = allocation.
*Interference Protection shown by ratio method, with lack of population. See below.
**Fully spaced with allowable rounding.

PROTECTED ZONES REPORT:

Protected zones report for 1593134 on channel 240L1 12-07-2014
Lat. 42 48 30.0 Lng. 73 53 59.0, ERP= 0.05 kw, HAAT= 34.4M

Distance to border = 237.8 km.
Facility is okay with respect to AM station towers.
Closest AM Facility is WOFX, TROY, NY, L, DAN at 118.9º at a distance of 6.0 km
Facility is okay with respect to FCC monitoring stations.
Closest FCC Monitoring Station is 275.4 km= Canandaigua, NY
Facility is okay toward West Virginia Quiet Zone. Distance to center = 683.5 km
Facility is okay toward Table Mountain. Distance to Center = 2634.7 km, Azimuth = 274.2 Degrees True

CONTOUR PROTECTION TO 2ND-ADJACENT STATIONS:

Contour protection to 2nd-adjacent stations WYJB, Albany, NY, and WAJZ, Voorheesville, NY, is provided using the ratio method. The F(50/50) contour of WYJB is 81.7dBu at the proposed site, while the contour of WAJZ is 67.3dBu at the proposed site. Using the appropriate U/D ratio of 40dB vs. WAJZ, the corresponding "worst-case" interfering contour of the proposed LPFM is therefore 107.3dBu, and the unadjusted free-space distance to the interfering contour is 213.9 meters. However, the field strength of the proposed antenna system falls quickly at depression angles below the horizon.

The proposed Shively 6812-6-SS 6-bay, 0.83 wavelength-spaced antenna would be mounted on a 34 meter pole at 27m AGL. The structures within 213.9 meters of the pole, are one and two stories tall, so a 4-meter adjustment was made in **Exhibit 11a**. This exhibit shows the extent of the 107.3dBu interfering contour at various depression angles. Additional "worst-case" adjustments were made for depression angles of 10 degrees or less (using Google Earth as a reference), where the terrain rises slightly, at some points east of the pole. In most other directions, the ground is flat or is below the base elevation of the pole. This exhibit shows that the interfering contour does not reach the uppermost populated surfaces, at any location. Therefore, there are no populated areas within the interference zone.

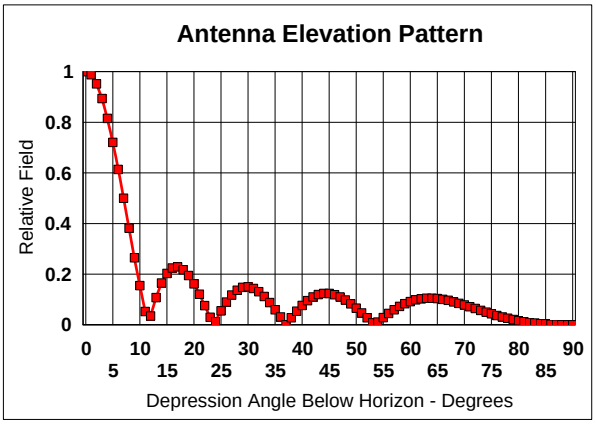
Exhibit 11b shows the elevation pattern data from Shively.

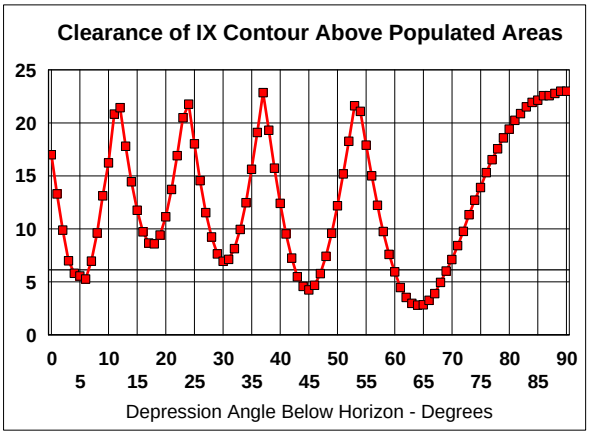
Exhibit 11a

2nd ADJACENT INTERFERENCE PROTECTION TO POPULATED AREAS

CALL LETTERS OR FILE NUMBER	NEW
PROPOSED COMMUNITY OF LICENSE	SCHENECTADY, NY
CHANNEL/FREQ.	240/95.9MHz
INTERFERING CONTOUR OF PROPOSAL - dBu	107.30
INTERFERING CONTOUR OF PROPOSAL - <V/m	0.2317
2nd-ADJ STN REQUIRING INTERFERENCE PROT. (wors	WAJZ, VOORHEESVILLE, NY
PROP. ERP (W)	50
ANTENNA MODEL	SHIVELY 6812-6-SS
NOTES	6bay 0.83 WAVELENGTH SPACED
	GROUND ELEVATION VARIATIONS
	TAKEN INTO ACCOUNT

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	50.00	213.90	0.0	213.9	17	17.0
1	0.988	48.81	211.33	3.7	211.3	17	13.3
2	0.952	45.32	203.63	7.1	203.5	17	9.9
3	0.894	39.96	191.22	10.0	191.0	17	7.0
4	0.816	33.29	174.54	12.2	174.1	18	5.8
5	0.721	25.99	154.22	13.4	153.6	19	5.6
6	0.614	18.85	131.33	13.7	130.6	19	5.3
7	0.5	12.50	106.95	13.0	106.2	20	7.0
8	0.382	7.30	81.71	11.4	80.9	21	9.6
9	0.265	3.51	56.68	8.9	56.0	22	13.1
10	0.155	1.20	33.15	5.8	32.7	22	16.2
11	0.053	0.14	11.34	2.2	11.1	23	20.8
12	0.035	0.06	7.49	1.6	7.3	23	21.4
13	0.108	0.58	23.10	5.2	22.5	23	17.8
14	0.165	1.36	35.29	8.5	34.2	23	14.5
15	0.203	2.06	43.42	11.2	41.9	23	11.8
16	0.225	2.53	48.13	13.3	46.3	23	9.7
17	0.229	2.62	48.98	14.3	46.8	23	8.7
18	0.218	2.38	46.63	14.4	44.3	23	8.6
19	0.195	1.90	41.71	13.6	39.4	23	9.4
20	0.162	1.31	34.65	11.9	32.6	23	11.1
21	0.121	0.73	25.88	9.3	24.2	23	13.7
22	0.076	0.29	16.26	6.1	15.1	23	16.9
23	0.03	0.05	6.42	2.5	5.9	23	20.5
24	0.014	0.01	2.99	1.2	2.7	23	21.8
25	0.055	0.15	11.76	5.0	10.7	23	18.0
26	0.09	0.41	19.25	8.4	17.3	23	14.6
27	0.118	0.70	25.24	11.5	22.5	23	11.5
28	0.137	0.94	29.30	13.8	25.9	23	9.2
29	0.148	1.10	31.66	15.3	27.7	23	7.7
30	0.15	1.13	32.08	16.0	27.8	23	7.0
31	0.144	1.04	30.80	15.9	26.4	23	7.1
32	0.131	0.86	28.02	14.8	23.8	23	8.2
33	0.112	0.63	23.96	13.0	20.1	23	10.0
34	0.088	0.39	18.82	10.5	15.6	23	12.5
35	0.06	0.18	12.83	7.4	10.5	23	15.6
36	0.031	0.05	6.63	3.9	5.4	23	19.1
37	0.001	0.00	0.21	0.1	0.2	23	22.9
38	0.028	0.04	5.99	3.7	4.7	23	19.3
39	0.054	0.15	11.55	7.3	9.0	23	15.7
40	0.077	0.30	16.47	10.6	12.6	23	12.4
41	0.096	0.46	20.53	13.5	15.5	23	9.5
42	0.11	0.61	23.53	15.7	17.5	23	7.3
43	0.12	0.72	25.67	17.5	18.8	23	5.5
44	0.124	0.77	26.52	18.4	19.1	23	4.6
45	0.124	0.77	26.52	18.8	18.8	23	4.2
46	0.119	0.71	25.45	18.3	17.7	23	4.7
47	0.11	0.61	23.53	17.2	16.0	23	5.8
48	0.098	0.48	20.96	15.6	14.0	23	7.4
49	0.083	0.34	17.75	13.4	11.6	23	9.6
50	0.066	0.22	14.12	10.8	9.1	23	12.2
51	0.047	0.11	10.05	7.8	6.3	23	15.2
52	0.028	0.04	5.99	4.7	3.7	23	18.3
53	0.008	0.00	1.71	1.4	1.0	23	21.6
54	0.011	0.01	2.35	1.9	1.4	23	21.1
55	0.029	0.04	6.20	5.1	3.6	23	17.9
56	0.045	0.10	9.63	8.0	5.4	23	15.0
57	0.06	0.18	12.83	10.8	7.0	23	12.2
58	0.073	0.27	15.61	13.2	8.3	23	9.8
59	0.084	0.35	17.97	15.4	9.3	23	7.6
60	0.092	0.42	19.68	17.0	9.8	23	6.0
61	0.099	0.49	21.18	18.5	10.3	23	4.5
62	0.103	0.53	22.03	19.5	10.3	23	3.5
63	0.105	0.55	22.46	20.0	10.2	23	3.0
64	0.105	0.55	22.46	20.2	9.8	23	2.8
65	0.104	0.54	22.25	20.2	9.4	23	2.8
66	0.101	0.51	21.60	19.7	8.8	23	3.3
67	0.097	0.47	20.75	19.1	8.1	23	3.9
68	0.091	0.41	19.46	18.0	7.3	23	5.0
69	0.085	0.36	18.18	17.0	6.5	23	6.0
70	0.079	0.31	16.90	15.9	5.8	23	7.1
71	0.072	0.26	15.40	14.6	5.0	23	8.4
72	0.065	0.21	13.90	13.2	4.3	23	9.8
73	0.057	0.16	12.19	11.7	3.6	23	11.3
74	0.05	0.13	10.69	10.3	2.9	23	12.7
75	0.044	0.10	9.41	9.1	2.4	23	13.9
76	0.037	0.07	7.91	7.7	1.9	23	15.3





77	0.031	0.05	6.63	6.5	1.5	23	**16.5**
78	0.026	0.03	5.56	5.4	1.2	23	**17.6**
79	0.021	0.02	4.49	4.4	0.9	23	**18.6**
80	0.017	0.01	3.64	3.6	0.6	23	**19.4**
81	0.013	0.01	2.78	2.7	0.4	23	**20.3**
82	0.01	0.01	2.14	2.1	0.3	23	**20.9**
83	0.007	0.00	1.50	1.5	0.2	23	**21.5**
84	0.005	0.00	1.07	1.1	0.1	23	**21.9**
85	0.004	0.00	0.86	0.9	0.1	23	**22.1**
86	0.002	0.00	0.43	0.4	0.0	23	**22.6**
87	0.002	0.00	0.43	0.4	0.0	23	**22.6**
88	0.001	0.00	0.21	0.2	0.0	23	**22.8**
89	0	0.00	0.00	0.0	0.0	23	**23.0**
90	0	0.00	0.00	0.0	0.0	23	**23.0**

EXHIBIT 11b
ANTENNA ELEVATION PATTERN DATA

Shively Labs
a division of Howell Laboratories,Inc

User specified data is entered only in yellow highlighted cells

Antenna Manufacturer	Shively Labs
Antenna Type	6812
Station	NEW LPFM
Frequency (MHz)	95.9
Channel #	240
Wavelength (in)	123.1
Number of Bays	6
Bay Spacing (in)	102.17
Beam Tilt Angle (Deg)	0
Center (1) or End (0) Fed	0
End Bay Line Length Delta (in)	0
Tee Offset Length for Center Fed (in)	0
Computed (0) or Custom (1) Excitation	0
Figure	1
Total Gain	3.074
Azimuth Gain	1
Computed Elevation Gain	3.074

Computed Array Excitation			Custom Excitation			
Bay #	Bay Amp.	Bay Phase (Deg)	Bay Amp.	Bay Phase (Deg)	Phase for Null Fill	Phase for Beam Tilt
1	1	0.00	1	0.00	0.00	0.00
2	1	0.00	1	0.00	0.00	0.00
3	1	0.00	1	0.00	0.00	0.00
4	1	0.00	1	0.00	0.00	0.00
5	1	0.00	1	0.00	0.00	0.00
6	1	0.00	1	0.00	0.00	0.00

Antenna Mfg.: Shively Labs **Date:** 12/7/2014
Antenna Type: 6812
Station: NEW LPFM **Beam Tilt** 0
Frequency: 95.9 **Gain (Max)** 3.074 4.877 dB
Channel #: 240 **Gain (Horizon)** 3.074 4.877 dB
Figure: 1

Angle of Depression (Deg)	Relative Field	Angle of Depression (Deg)	Relative Field	Angle of Depression (Deg)	Relative Field	Angle of Depression (Deg)	Relative Field
-90	0.000	-44	0.124	0	1.000	46	0.119
-89	0.000	-43	0.120	1	0.988	47	0.110
-88	0.001	-42	0.110	2	0.952	48	0.098
-87	0.002	-41	0.096	3	0.894	49	0.083
-86	0.002	-40	0.077	4	0.816	50	0.066
-85	0.004	-39	0.054	5	0.721	51	0.047
-84	0.005	-38	0.028	6	0.614	52	0.028
-83	0.007	-37	0.001	7	0.500	53	0.008
-82	0.010	-36	0.031	8	0.382	54	0.011
-81	0.013	-35	0.060	9	0.265	55	0.029
-80	0.017	-34	0.088	10	0.155	56	0.045
-79	0.021	-33	0.112	11	0.053	57	0.060
-78	0.026	-32	0.131	12	0.035	58	0.073
-77	0.031	-31	0.144	13	0.108	59	0.084
-76	0.037	-30	0.150	14	0.165	60	0.092
-75	0.044	-29	0.148	15	0.203	61	0.099
-74	0.050	-28	0.137	16	0.225	62	0.103
-73	0.057	-27	0.118	17	0.229	63	0.105
-72	0.065	-26	0.090	18	0.218	64	0.105
-71	0.072	-25	0.055	19	0.195	65	0.104
-70	0.079	-24	0.014	20	0.162	66	0.101
-69	0.085	-23	0.030	21	0.121	67	0.097
-68	0.091	-22	0.076	22	0.076	68	0.091
-67	0.097	-21	0.121	23	0.030	69	0.085
-66	0.101	-20	0.162	24	0.014	70	0.079
-65	0.104	-19	0.195	25	0.055	71	0.072
-64	0.105	-18	0.218	26	0.090	72	0.065
-63	0.105	-17	0.229	27	0.118	73	0.057
-62	0.103	-16	0.225	28	0.137	74	0.050
-61	0.099	-15	0.203	29	0.148	75	0.044
-60	0.092	-14	0.165	30	0.150	76	0.037
-59	0.084	-13	0.108	31	0.144	77	0.031
-58	0.073	-12	0.035	32	0.131	78	0.026
-57	0.060	-11	0.053	33	0.112	79	0.021
-56	0.045	-10	0.155	34	0.088	80	0.017
-55	0.029	-9	0.265	35	0.060	81	0.013
-54	0.011	-8	0.382	36	0.031	82	0.010
-53	0.008	-7	0.500	37	0.001	83	0.007
-52	0.028	-6	0.614	38	0.028	84	0.005
-51	0.047	-5	0.721	39	0.054	85	0.004
-50	0.066	-4	0.816	40	0.077	86	0.002
-49	0.083	-3	0.894	41	0.096	87	0.002
-48	0.098	-2	0.952	42	0.110	88	0.001
-47	0.110	-1	0.988	43	0.120	89	0.000
-46	0.119	0	1.000	44	0.124	90	0.000
-45	0.124			45	0.124		

Antenna Mfg.:	**Shively Labs**			**Date: 12/7/2014**
Antenna Type:	**6812**			
Station:	**NEW LPFM**	**Beam Tilt**	**0**	
Frequency:	**95.9**	**Gain (Max)**	**3.074**	**4.877 dB**
Channel #:	**240**	**Gain (Horizon)**	**3.074**	**4.877 dB**
Figure:	**1**			

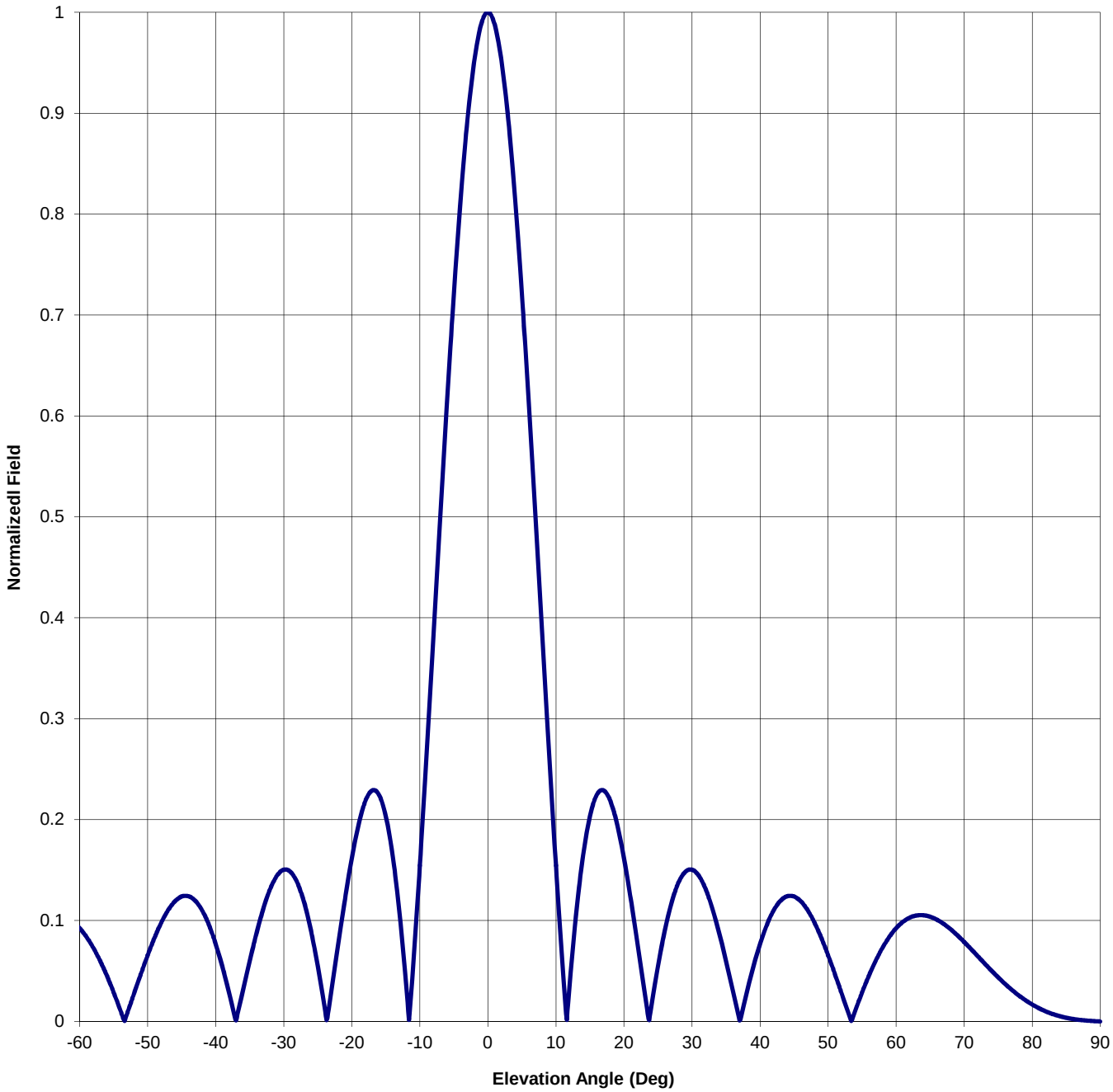


EXHIBIT 14
ENVIRONMENTAL PROTECTION ACT / NIER ANALYSIS

The applicant proposes mounting a new antenna on a 34 meter pole. The proposed center of radiation is 27m AGL. A 6-bay 0.83 wavelength-spaced Shively 6812 antenna is proposed. Calculations were made using FM Model for Windows, version 2.10, using the "Shively 6810" setting. This predicted a peak exposure of 0.035μW/cm^2, at 12 meters from the tower. This represents 0.0175% of the Maximum Permissible Exposure (MPE) of 200μW/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 applicant will ensure that the pole is protected by an effective anti-climb device, preventing unauthorized climbing. The applicant will ensure that the site is posted with appropriate RF exposure warning signs. If climbing by authorized personnel becomes necessary, transmitter power will be reduced or operation will cease, as necessary, so as to not exceed the RF exposure limits.

BROWN BROADCAST SERVICES
INCORPORATED
Michael D. Brown 3740 S.W. Comus St. Portland, Oregon 97219-7418 503-245-6065