

JOB 113101
COMMUNITY OF LICENSE Newark, NJ
APPLICANT Caribbean Sports International, Inc.

VER 1

CONSOLIDATED ENGINEERING EXHIBIT

FCC Form 318 - Section VI - LPFM Engineering, Tech Box

ENGINEERING STATEMENT
PROPOSED NEW LPFM STATION AT NEWARK, NJ
Caribbean Sports International, Inc.

SUMMARY:

The applicant seeks a new LPFM station. This proposal is short-spaced to one or more 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.

PERTINENT SPECIFICATIONS NOT INCLUDED IN SECTION VI - TECH BOX:

HAAT: 39 meters

ERP: 61 watts

DATA SOURCE: V-Soft FMCommander with HAAT Method 0(zero); FCC 30 Second
Terrain

SUPPORT STRUCTURE: Monopole on ground

EXHIBIT 11 INTERFERENCE

REFERENCE		DISPLAY DATES
40 45 41.0 N.	CLASS = L1 Int = L1	DATA 11-08-13
74 12 35.0 W.	Current Spacings to 2nd Adj.	SEARCH 11-08-13
----- Channel 240 - 95.9 MHz -----		

Call	Channel	Location	Azi	Dist	FCC	Margin
WPLJ	LIC 238B	New York NY	94.3	18.93	66.5	-47.6
WXNY-FM	LIC 242B	New York NY	94.3	18.93	66.5	-47.6
WRAT	LIC 240A	Point Pleasant NJ	166.8	67.35	66.5	0.9
WRAT	CP 240A	Point Pleasant NJ	167.2	67.82	66.5	1.3
WCTO	LIC 241B	Easton PA	260.3	103.90	96.5	7.4
Grandfathered at 50 kW ERP / 152 meters HAAT						
1567231	APP-D 240D	Warren Township NJ	239.6	34.32	25.5	8.8
1549178	APP 240D	Warren Township NJ	239.6	34.32	25.5	8.8
WFOX	LIC 240A	Norwalk CT	58.6	76.15	66.5	9.7
WBEN-FM	LIC 239B	Philadelphia PA	227.6	118.47	96.5	22.0
1566954	APP 240D	Peekskill NY	22.3	69.32	25.5	43.8
1550946	APP 240D	Peekskill NY	22.3	69.32	25.5	43.8
WKSS	LIC-D 239B	Hartford-meriden CT	51.7	145.01	96.5	48.5

All separation margins include rounding

PROTECTED ZONES REPORT:

Protected zones report for NEW on channel 240L1 11-08-2013
Lat. 40 45 41.0 Lng. 74 12 35.0, ERP= 0.064 kw, HAAT= 38.5M

Facility is okay with respect to Canada. Distance = 384.2 km.
Facility is okay with respect to AM station towers.

Closest AM Facility is WMCA, NEW YORK, NY, L, DA1 at 96.1° at a distance of 8.9 km

Facility is okay with respect to FCC monitoring stations.

Closest FCC Monitoring Station is 285.0 km= Laurel, MD

Facility is okay toward West Virginia Quiet Zone. Distance to center = 526.2 km

Facility is okay toward Table Mountain. Distance to Center = 2633.3 km, Azimuth = 278.7 Degrees True

CONTOUR PROTECTION TO 2ND-ADJACENT STATIONS:

Contour protection to 2nd-adjacent stations WPLJ and WXNY-FM is provided using the ratio method. The F(50/50) contour of WPLJ is 79.8dBu at the proposed site. The F(50/50) contour of WXNY-FM is 79.5dBu at the proposed site. Using the appropriate U/D ratio of

BROWN BROADCAST SERVICES
INCORPORATED

Michael D. Brown

3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

40dB vs. WXNY-FM, the corresponding “worst-case” interfering contour of the proposed LPFM is 119.5dBu and the Distance to Contour is 58.0 meters. However, the field strength of the proposed antenna system falls quickly at depression angles below the horizon.

The proposed 2-bay, ½ wave-spaced SWR FMEC/2-HWS antenna would be mounted on a 51 meter tower at 35m AGL. Using elevation pattern data provided by SWR, the distance to the 119.5dBu contour at various depression angles is tabulated in **Exhibit 11a**.

The surrounding neighborhood (within 58.0 meters) has only two and three story buildings. The uppermost populated floor level of these buildings is believed to be no less than 20 meters below the center of radiation. No areas of interference come close to any of these surfaces. The roofs of the surrounding buildings are not inhabited surfaces.

Therefore, there are no populated areas within the interference zone.

Exhibit 11a

SECOND ADJACENT INTERFERENCE PROTECTION TO POPULATED AREAS

NEW LPFM	<CALL LETTERS OR FILE NUMBER
Newark, NJ	<PROPOSED COMMUNITY OF LICENSE
119.50	<INTERFERING CONTOUR OF PROPOSAL - dBu
0.9441	<V/m
WXNY-FM, New York	<2nd-ADJ STN REQUIRING INTERFERENCE PROT. (worst case)
61	<PROP. ERP (W)
SWR FMEC/2-HWS	<ANTENNA MODEL

max ERP (W)	depression angle below horizon (dg)	relative field	ERP (W)	angular distance to contour (m)	vertical distance (below antenna) (m)	horiz distance to contour (m)	vertical distance below antenna required to clear nearest populated level (m)	clearance of interfering contour above nearest populated level (m)
61	0	1	61.00	57.99	0.0	58.0	20	20.0
61	5	0.987	59.42	57.24	5.0	57.0	20	15.0
61	10	0.95	55.05	55.09	9.6	54.3	20	10.4
61	15	0.89	48.32	51.61	13.4	49.9	20	6.6
61	20	0.812	40.22	47.09	16.1	44.3	20	3.9
61	25	0.721	31.71	41.81	17.7	37.9	20	2.3
61	30	0.622	23.60	36.07	18.0	31.2	20	2.0
61	35	0.52	16.49	30.16	17.3	24.7	20	2.7
61	40	0.42	10.76	24.36	15.7	18.7	20	4.3
61	45	0.327	6.52	18.96	13.4	13.4	20	6.6
61	50	0.244	3.63	14.15	10.8	9.1	20	9.2
61	55	0.173	1.83	10.03	8.2	5.8	20	11.8
61	60	0.115	0.81	6.67	5.8	3.3	20	14.2
61	65	0.07	0.30	4.06	3.7	1.7	20	16.3
61	70	0.039	0.09	2.26	2.1	0.8	20	17.9
61	75	0.018	0.02	1.04	1.0	0.3	20	19.0
61	80	0.006	0.00	0.35	0.3	0.1	20	19.7
61	85	0.001	0.00	0.06	0.1	0.0	20	19.9
61	90	0	0.00	0.00	0.0	0.0	20	20.0

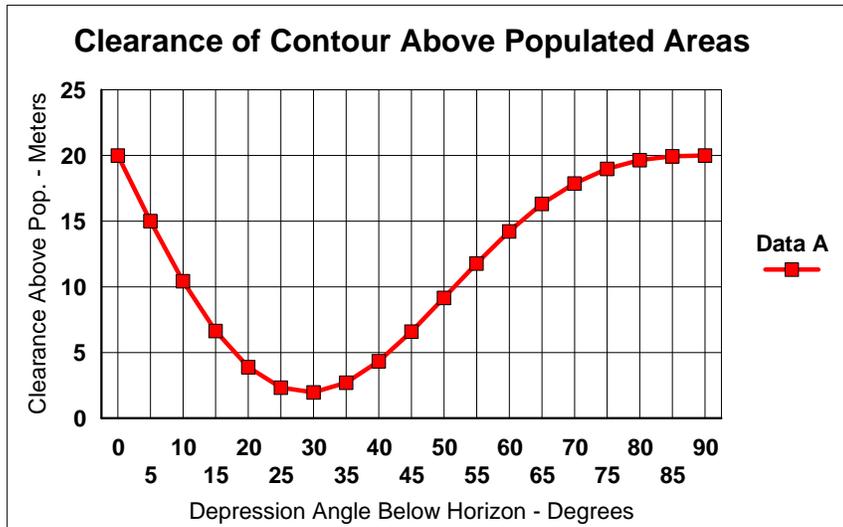


EXHIBIT 14

ENVIRONMENTAL PROTECTION ACT / NIER ANALYSIS

The applicant proposes mounting a new antenna on a 51 meter registered tower. The proposed center of radiation is 35m AGL. A 2 bay, ½ wave-spaced SWR FMEC/2-HWS antenna is anticipated. This antenna is the functional equivalent of the Jampro "Double-V" series. The surrounding neighborhood has only two and three story buildings. The uppermost populated floor level of these buildings is believed to be no less than 20 meters below the center of radiation, which was the height used in the FM Model calculations. The roofs of the surrounding buildings are not inhabited surfaces.

Calculations were made using FM Model for Windows, version 2.10, using the "Jampro "Double-V"" setting. FM Model predicted a peak exposure of $1.32\mu\text{W}/\text{cm}^2$, at 33.6 meters from the tower. This represents 0.66% 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 applicant will ensure that public access to the tower is restricted by fencing, anti-climb devices, or other appropriate measures. The site will be posted with appropriate RF exposure warning signs. If tower 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.