APPLICATION FOR A MINOR MODIFICATION TO A LICENSED LPFM BROADCAST STATION HAVING FCC CALL SIGN KZNQ-LP, FACILITY ID 196311, AND FCC FILE NO.: BLL-20160404AAI SANTA CLARITA, CA

September 26, 2016

Prepared For:

Santa Clarita Public Service Broadcasters Corporation
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Prepared By:

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1.0 PURPOSE OF LPFM MODIFICATION APPLICATION

It is herein proposed to modify the above reference licensed facility to change the existing narrow azimuth antenna pattern to a wider pattern to provide more coverage. No other changes are proposed.

2.0 EFFECTIVE RADIATED POWER

Pursuant to 47 C.F.R. Section 73.811(a) entitled "LPFM power and antenna height requirements.", LPFM stations will be authorized to operate with maximum facilities of 100W ERP at 30 meters HAAT. An LPFM station with a HAAT that exceeds 30 meters will not be permitted to operate with an ERP greater than that which would result in a 1 mV/m (60 dBu) contour which exceeds of 5.6km.

Since the calculated HAAT is -121m as demonstrated in Appendix A, the applicant may employ the statutory maximum power of 100 Watt ERP.

3.0 FREQUENCY ALLOCATION ANALYSIS AND WAIVER REQUEST

Appendix B is an LPFM spacing study which indicates short spacing to stations KRTH (FCC File No.: BMLH-20071015AJG), KSCA (FCC File No.: BMLH-20111031ADQ), and K268CO (FCC File No.: BMPFT-20160128BER).

3.1 Second Adjacent Channel Short Spacing Waiver for KRTH-FM

Appendix C demonstrates the Undesired-to-Desired signal ratio method using the directional antenna illustrated in Appendix E and the corresponding interfering and protected contours. As shown, the Interfering contour does not touch occupied structures or major roadways. Therefore, no population shall be subject to interference from the proposed station according to the undesired-to-desired ratio method. As such, a wavier is respectfully requested for the proposed LPFM second-adjacent channel short-spacing with KRTH-FM FCC File BMLH-20071015AJG, facility ID 28631 and of which is not an existing station designated with a Radio Reading Service.

3.2 Second Adjacent Channel Short Spacing Waiver for KSCA-FM

Appendix D demonstrates the Undesired-to-Desired signal ratio method using the directional antenna illustrated in Appendix E and the corresponding interfering and protected contours. As shown, the interfering contour does not touch occupied structures or major roadways. Therefore, no population shall be subject to interference from the proposed station according to the undesired-to-desired ratio method. As such, a wavier is respectfully requested for the proposed

LPFM second-adjacent channel short-spacing with KSCA-FM FCC File BMLH-20111031ADQ, facility ID 24548 and of which is not an existing station designated with a Radio Reading Service.

3.3 Co-Channel short Spacing to K268CO

The proposed LPFM facility KZNQ-LP received its construction permit on August 20, 2014, K268CO applied for and received a construction permit on February 5, 2016 for a radical change in transmitter site and frequency as part of the AM revitalization filing window which opened January 29, 2016. The frequency and site change placed K268CO in a location which allowed them to protect KZNQ-LP from their prospective using standard contour analysis; however, from the perspective of KZNQ-LP it created a short spacing scenario. The herein proposed KZNQ-LP application does not propose a site change; therefore, short-spacing to K268CO shall remain as permitted and is not a mitigating factor for the grant of the instant application.

4.0 INTERNATIONAL COORDINATION

The proposed facility lies 250km from the Mexican border and is thus within the 320km coordination distance. Applicants between 125 km and 320 km of Mexico require coordination only if they specify an ERP exceeding 50 watts in the direction of Mexico. The instant amendment specifies an ERP of 100 Watts and thus will require coordination with Mexican officials.

5.0 NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

5.1 General Environmental Requirements

The proposed support structure and antenna will not:

- Require high intensity white lighting.
- Is not located in an official designated wilderness area or wildlife preserve.
- Does not threaten the existence or habitat of endangered species.
- Does not affect districts, sites, buildings, structures or objects significant in American history, architecture, archaeology, engineering or culture that are listed in the National Register of Historic Places or are eligible for listing.
- Does not affect Indian religious sites.
- Is not located in a floodplain
- Does not require construction that involves significant changes in surface features (e.g., wetland fill, deforestation or water diversion).

5.2 Radio Frequency Radiation (RFR) Compliance.

Appendix F is a RFR analysis which demonstrates that the peak RFR exposure is less than 5% of the most restrictive permissible exposure threshold standing anywhere at ground level and in any proximity to the proposed support structure. Pursuant to OET Bulletin 65, since the proposed operation does not exceed 5% of the most permissible exposure at any location 2 meters above the ground, it is not considered a significant contributor to RFR and other sources of RFR need not be taken into consideration for a net effect. The instant application is compliant with the FCC limits for human exposure to RFR and thus is excluded from further environmental processing.

6.0 CERTIFICATION

The foregoing statement and the report regarding the aforementioned Engineering work are true and correct to the best of my knowledge. Executed on September 26, 2016.

KESSLER AND GEHMAN ASSOCIATES, INC.

Ryan Wilhour
Consulting Engineer

APPENDIX A – HAAT CALCULATION

The Height Above Average Terrain (HAAT) was calculated from the FCC's HAAT Calculator tool:

https://www.fcc.gov/media/radio/haat-calculator

Results are as follows:

Antenna Height Above Average Terrain Calculations -- Results

Input Data

Latitude **34° 25' 45"** North
Longitude **118° 34' 51.1"** West (NAD 27)

These coordinates convert to NAD 83 coordinates of
34° 25' 44.98", North, 118° 34' 54.41" West (NAD 83).

Height of antenna radiation center above mean sea level: **398.7** meters AMSL

Number of Evenly Spaced Radials = **8** 0° is referenced to True North

Results

Calculated HAAT = **-121 meters**

Antenna Height Above Average Terrain calculated
using FCC 30 second terrain database (continental USA only)

Individual "Radial HAAT" Values, in meters

0°	-115.8 m
45°	-189.0 m
90°	-58.9 m
135°	-98.4 m
180°	-200.0 m
225°	-156.3 m
270°	-4.3 m
315°	-142.8 m

All radial HAAT values are negative.
Radiation center height AMSL may be underground!

APPENDIX B – ALLOCATION ANALYSIS

Santa Clarita Public Service Broadcasters Corporation

REFERENCE — DISPLAY DATES
34 25 45.0 N. — CLASS = L1 Int = L1 — DATA 09-26-16
118 34 51.1 W. — Current Spacings to 2nd Adj. — SEARCH 09-26-16

Channel 268 - 101.5 MHz

Call		Channel	Location		Azi	Dist	FCC	Margin
KRTH	LIC	266B	Los Angeles	CA	115.3	52.35	66.5	-14.2
KSCA	LIC	270B	Glendale	CA	115.5	52.86	66.5	-13.6
K268CO	CP -D	268D	Lake Los Angeles	CA	68.5	36.00	38.5	-2.5
KGFM	LIC	268B	Bakersfield	CA	352.7	112.85	111.5	1.4
NEW	CP	268L1	Panorama City	CA	141.1	25.12	23.5	1.6
KSBL	CP -Z	269B	Isla Vista	CA	244.5	109.10	96.5	12.6
NEW	CP	268L1	Los Angeles	CA	176.7	42.55	23.5	19.1
K268DD	CP -D	268D	Los Angeles	CA	157.0	50.85	25.5	25.4
NEW	CP	268L1	Los Angeles	CA	144.7	50.87	23.5	27.4
NEW	CP	268L1	Pasadena	CA	128.0	51.52	23.5	28.0
NEW	CP	268L1	Pasadena	CA	126.1	54.78	23.5	31.3
NEW	CP	268L1	Los Angeles	CA	140.8	55.04	23.5	31.5
1739708	APP	268L1	El Monte	CA	135.8	57.31	23.5	33.8
KOCC-LP	LIC	268L1	Oxnard	CA	244.2	58.66	23.5	35.2
NEW	CP	268L1	El Monte	CA	135.2	61.32	23.5	37.8
KSBL	LIC	269B1	Carpinteria	CA	274.4	116.79	73.5	43.3
KOVY-LP	CP	267L1	Ojai	CA	270.5	59.61	13.5	46.1
KEHS-LP	CP	268L1	West Covina	CA	124.8	70.91	23.5	47.4

All separation margins include rounding

APPENDIX C - Short Spacing Waiver Calculation for KRTH-FM

Short Spacing Undesired-to-Desired Ratio Calculation to second-adjacent channel facility:

Undesired-to-Desired Ratio Method:

BMLH-20071015AJG f(50,50) signal: 75.78 dBu
Second-adjacent protection: + 40 dB
Interference-zone boundary: 115.78 dBu

Using the directional antenna shown in Appendix E rotated with its maximum lobe of radiation pointed towards 125 degrees from true north, the peak interference zone propagates 113 meters. As demonstrated below the directional antenna pulls a null in order to keep the 115.78 dBu interfering contour from intersecting neither occupied structures nor major roadways, thus as demonstrated no population will be subject to interference from the proposed station according to the undesired-to-desired ratio method.


KZNQ-LP (268)

APPENDIX D - Short Spacing Waiver Calculation for KSCA-FM

Short Spacing Undesired-to-Desired Ratio Calculation to second-adjacent channel facility:

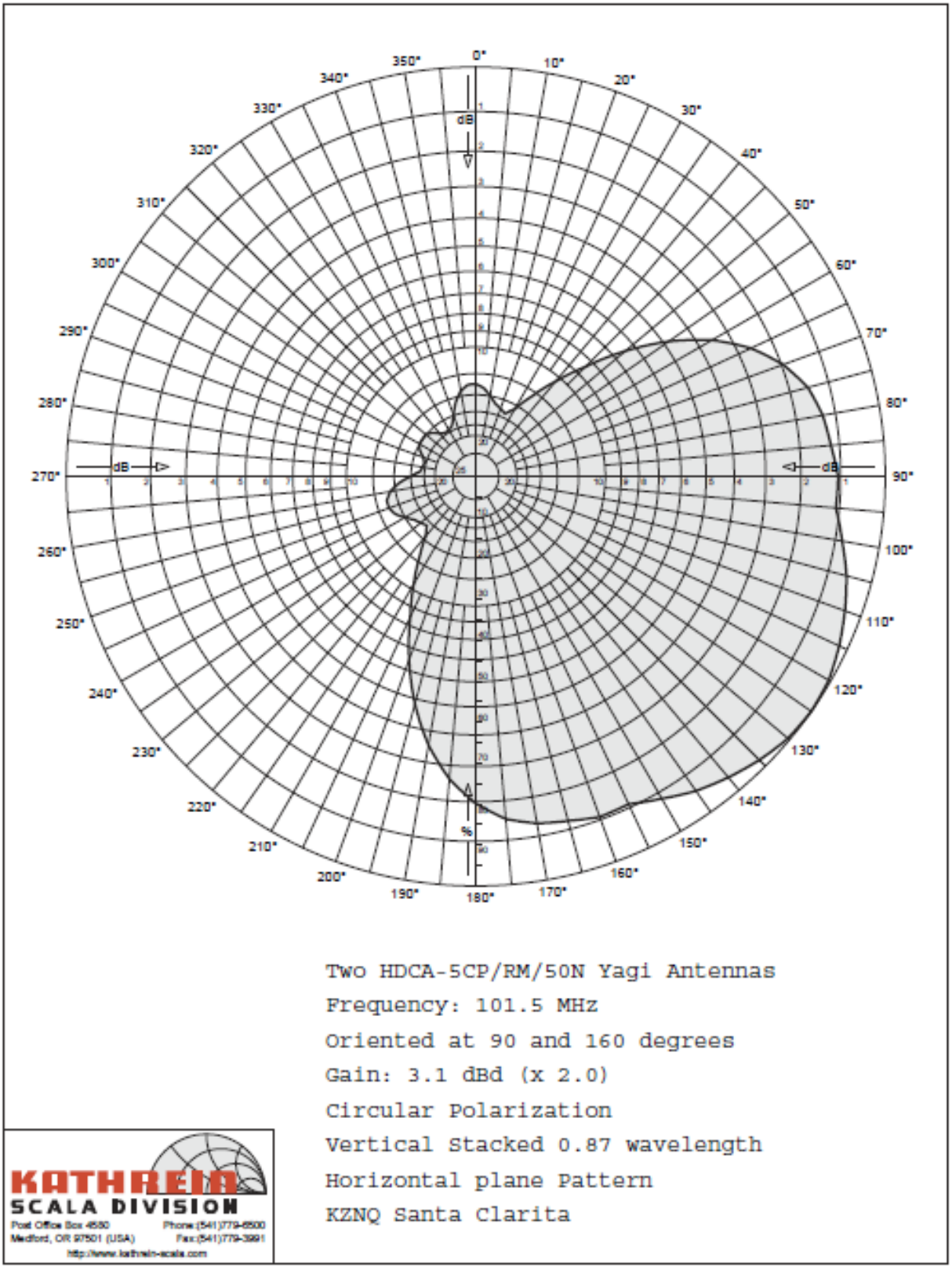
Undesired-to-Desired Ratio Method:

BMLH-20111031ADQ f(50,50) signal: 63.57 dBu
Second-adjacent protection: + 40 dB
Interference-zone boundary: 103.57 dBu

Using the directional antenna shown in Appendix E rotated with its maximum lobe of radiation pointed towards 125 degrees from true north, the peak interference zone propagates 464 meters. As demonstrated below the directional antenna pulls a null in order to keep the 103.57 dBu interfering contour from intersecting neither occupied structures nor major roadways, thus as demonstrated no population will be subject to interference from the proposed station according to the undesired-to-desired ratio method.


KZNQ-LP (268)

APPENDIX E – Broadcast Antenna Specifications



KATHREIN
SCALA DIVISION

Two HDCA-5CP/RM/50N Yagi Antennas
Frequency: 101.5 MHz
Oriented at 90 and 160 degrees
Gain: 3.1 dBd (x 2.0)

Circular Polarization
Vertical Stacked 0.87 wavelength
Horizontal plane Pattern
KZNQ Santa Clarita

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
0	0.226	-12.92	-9.82	0.10	180	0.799	-1.95	1.15	1.30
5	0.217	-13.27	-10.17	0.10	185	0.741	-2.60	0.50	1.12
10	0.200	-13.96	-10.86	0.08	190	0.666	-3.53	-0.43	0.91
15	0.184	-14.71	-11.61	0.07	195	0.575	-4.80	-1.70	0.68
20	0.176	-15.08	-11.98	0.06	200	0.477	-6.44	-3.34	0.46
25	0.169	-15.44	-12.34	0.06	205	0.379	-8.42	-5.32	0.29
30	0.190	-14.41	-11.31	0.07	210	0.303	-10.37	-7.27	0.19
35	0.240	-12.41	-9.31	0.12	215	0.240	-12.41	-9.31	0.12
40	0.303	-10.37	-7.27	0.19	220	0.190	-14.41	-11.31	0.07
45	0.379	-8.42	-5.32	0.29	225	0.169	-15.44	-12.34	0.06
50	0.477	-6.44	-3.34	0.46	230	0.176	-15.08	-11.98	0.06
55	0.575	-4.80	-1.70	0.68	235	0.184	-14.71	-11.61	0.07
60	0.666	-3.53	-0.43	0.91	240	0.200	-13.96	-10.86	0.08
65	0.741	-2.60	0.50	1.12	245	0.217	-13.27	-10.17	0.10
70	0.799	-1.95	1.15	1.30	250	0.226	-12.92	-9.82	0.10
75	0.840	-1.52	1.58	1.44	255	0.225	-12.97	-9.87	0.10
80	0.860	-1.31	1.79	1.51	260	0.212	-13.47	-10.37	0.09
85	0.871	-1.20	1.90	1.55	265	0.189	-14.48	-11.38	0.07
90	0.885	-1.06	2.04	1.60	270	0.159	-15.95	-12.85	0.05
95	0.883	-1.08	2.02	1.59	275	0.137	-17.27	-14.17	0.04
100	0.909	-0.83	2.27	1.69	280	0.132	-17.61	-14.51	0.04
105	0.937	-0.56	2.54	1.79	285	0.130	-17.71	-14.61	0.03
110	0.959	-0.36	2.74	1.88	290	0.137	-17.29	-14.19	0.04
115	0.979	-0.18	2.92	1.96	295	0.151	-16.43	-13.33	0.05
120	0.995	-0.04	3.06	2.02	300	0.159	-15.95	-12.85	0.05
125	1.000	-0.00	3.10	2.04	305	0.159	-15.97	-12.87	0.05
130	0.995	-0.04	3.06	2.02	310	0.159	-15.95	-12.85	0.05
135	0.979	-0.18	2.92	1.96	315	0.151	-16.43	-13.33	0.05
140	0.959	-0.36	2.74	1.88	320	0.137	-17.29	-14.19	0.04
145	0.937	-0.56	2.54	1.79	325	0.130	-17.71	-14.61	0.03
150	0.909	-0.83	2.27	1.69	330	0.132	-17.61	-14.51	0.04
155	0.883	-1.08	2.02	1.59	335	0.137	-17.27	-14.17	0.04
160	0.885	-1.06	2.04	1.60	340	0.159	-15.95	-12.85	0.05
165	0.871	-1.20	1.90	1.55	345	0.189	-14.48	-11.38	0.07
170	0.860	-1.31	1.79	1.51	350	0.212	-13.47	-10.37	0.09
175	0.840	-1.52	1.58	1.44	355	0.225	-12.97	-9.87	0.10

APPENDIX F - Far Field Exposure to RF Emissions

A theoretical analysis has been conducted of the human exposure to radio frequency radiation ("RFR") using the calculation methodology described in OET Bulletin 65, Edition 97-01. The RFR analysis is conducted pursuant to the following methodology:

Terrain extraction is compiled from the support structure site, if the support structure is on a rooftop with no higher elevations (e.g., elevator shaft) then flat terrain is compiled. Terrain is extracted using radial lengths of 0.25 miles in 0.001 mile increments for 360 radials. The power density is calculated for each terrain point at 6 feet above ground level using the elevation and azimuth pattern of the proposed broadcast antenna. The power density calculations are conducted using the lower edge of the proposed channel frequency. To account for ground reflections, a coefficient of 1.6 was included in the calculation.

The resulting cylindrical polar analysis is then summarized into a coordinate plane graph using the following methodology:

Starting from the origin the maximum calculated RFR value is determined among the 360 degree radials for each 0.001 mile increment, the value is then converted into a percentage of the maximum allowable general population or uncontrolled exposure and plotted as a function of perpendicular distance from the tower.

FAR FIELD EXPOSURE TO RF EMISSIONS