



ENGINEERING STUDY

AMENDMENT FOR

File #0000167858

NEW 215A, Gallup, NM

Good News Broadcasting Network, Inc

November, 2023

NEW 215A
Gallup, NM
November, 2023

TECHNICAL STATEMENT

This amended technical statement and attached exhibits were prepared on behalf of Good News Broadcasting Network, Inc., in support of a NEW NCE FM radio station on Channel 215A to be licensed to the community of Gallup, NM.

PURPOSE OF AMENDMENT

This amendment is being filed to slightly adjust the proposed directional pattern in order to provide compliance with contour protection to cochannel KSHI (FM), 215A, Zuni, NM. The revised antenna pattern is shown in Exhibits A, These changes are also reflected in the LMS amendment.

BASIS OF CALCULATIONS

All exhibits and calculations in this application were prepared using the FCC 30-Second Terrain Dataset. Although not shown, compliance using the (NED) 3 Second US Terrain database was also verified in an abundance of caution. Contours are calculated using 72 evenly spaced radials. All population calculations were based on the 2010 *Census Block Data* from the US Bureau of Census¹.

POPULATION SERVED

The proposed, amended NCE facility will encompass 1,314.2 sq. km. and a total of 35,231 people (2010 Census). Due to the antenna pattern modification, this is only 159 fewer persons (0.4% less) in the 60dBu contour.

¹ As specified in FCC MB DA 21-885, Page 5, 6.

47 CFR § 73.509 COMPLIANCE

As demonstrated in Exhibit B, the proposed NCE facility will utilize directional antenna and will meet all contour protection requirements toward other stations as specified in 47 CFR § 73.509. Select protection contours to KSHI are shown in Exhibit C. The antenna pattern is shown in Exhibit A. Exhibits D1 and D2 show the tabulated Proposed 215A (Amended) 40dBu f50,10 and KSHI Protected 60dBu f50,50 Distance to Contour calculations.

COMMUNITY COVERAGE

As demonstrated in Exhibit C, the proposed modified facility will continue to cover 100% of Gallup, NM in area and population with the 60dBu signal.

ENVIRONMENTAL CONSIDERATIONS

The proposed modified antenna will not change the environmental conditions as addressed in the original application.

The proposed FM station along with other users at the site will maintain an occupational safety policy and agrees to reduce power or cease operation during periods of maintenance to avoid potentially harmful exposure of personnel to non-ionizing RF radiation.

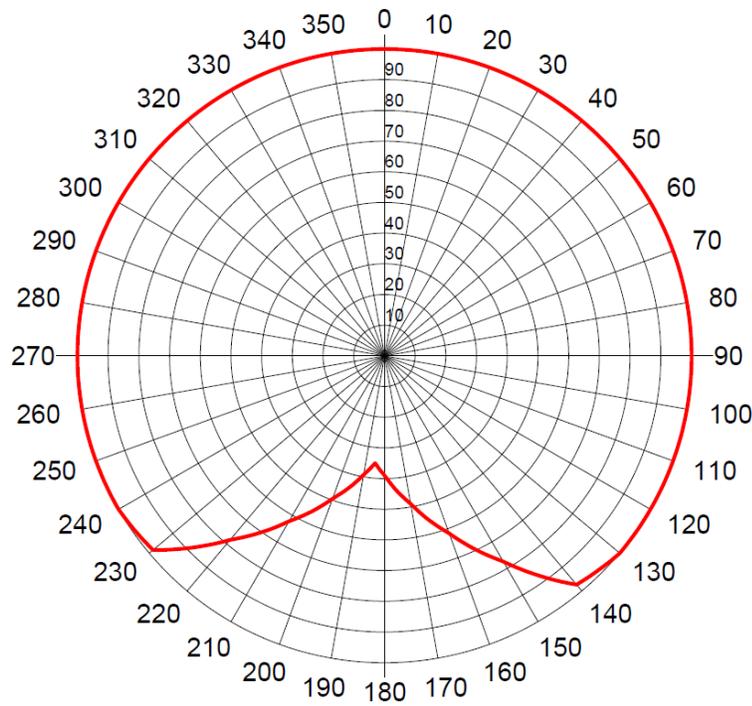
Respectfully Submitted

A handwritten signature in cursive script that reads "Bert Goldman". The signature is written in black ink and is positioned above the printed name and title.

Bert Goldman
Technical Consultant

EXHIBIT A- Antenna Pattern

Amended Gallup 215A pattern



Azi	Rel	dBk	kW	dB	Azi	Rel	dBk	kW	dB
0	1.000	4.77	3.00	0.00	180	0.389	-3.43	0.45	-8.20
10	1.000	4.77	3.00	0.00	190	0.394	-3.33	0.46	-8.10
20	1.000	4.77	3.00	0.00	200	0.495	-1.34	0.73	-6.11
30	1.000	4.77	3.00	0.00	210	0.622	0.65	1.16	-4.12
40	1.000	4.77	3.00	0.00	220	0.783	2.64	1.84	-2.13
50	1.000	4.77	3.00	0.00	230	0.984	4.63	2.90	-0.14
60	1.000	4.77	3.00	0.00	240	1.000	4.77	3.00	0.00
70	1.000	4.77	3.00	0.00	250	1.000	4.77	3.00	0.00
80	1.000	4.77	3.00	0.00	260	1.000	4.77	3.00	0.00
90	1.000	4.77	3.00	0.00	270	1.000	4.77	3.00	0.00
100	1.000	4.77	3.00	0.00	280	1.000	4.77	3.00	0.00
110	1.000	4.77	3.00	0.00	290	1.000	4.77	3.00	0.00
120	1.000	4.77	3.00	0.00	300	1.000	4.77	3.00	0.00
130	1.000	4.77	3.00	0.00	310	1.000	4.77	3.00	0.00
140	0.973	4.53	2.84	-0.24	320	1.000	4.77	3.00	0.00
150	0.774	2.54	1.80	-2.23	330	1.000	4.77	3.00	0.00
160	0.615	0.55	1.14	-4.22	340	1.000	4.77	3.00	0.00
170	0.489	-1.44	0.72	-6.21	350	1.000	4.77	3.00	0.00

Rotation Angle = 0

Additional Points

Azi	Rel	dBk	kW	dB
185	0.354	-4.26	0.38	-9.03

EXHIBIT B- ALLOCATION STUDY (LMS)

ComStudy 2.2 search of channel 215 (90.9 MHz Class A) at 35-35-10.0 N, 108-45-53.0 W.

CALL	CITY	ST CHN CL	DIST	SEP	BRNG	CLEARANCE
NCE-MXG-152	GALLUP	NM 215 A	5.37	115.00	159.4	-42.40 dB Competing app
NEW	GALLUP	NM 215 A	0.00	115.00	90.0	-21.46 dB This appl
KSHI	ZUNI	NM 215 A	55.27	115.00	182.4	-0.00 dB Exhibit C, D
KEZF(CP)	GRANTS	NM 216 C1	92.41	133.00	124.1	2.19 dB
KSJE	FARMINGTON	NM 215 C3	132.70	142.00	21.4	2.25 dB
KEZF(LIC)	GRANTS	NM 216 C2	112.35	106.00	109.0	4.98 dB
KEZF(APP)	GRANTS	NM 216 C2	112.35	106.00	109.0	4.98 dB
KEZF	GRANTS	NM 216 C2	112.35	106.00	109.0	4.98 dB
KQLV	SANTA FE	NM 214 C	214.22	165.00	100.5	11.82 dB
KQLV	SANTA FE	NM 214 C	214.22	165.00	100.5	11.82 dB
KHCK	HOUCK	AZ 217 A	55.25	31.00	232.6	14.99 dB
KTNN-FM	TOHATCHI	NM 268 C2	35.98	15.00	358.6	21.0

LMS as of 11/3/2023

EXHIBIT C Overall Contour Protections Map

Good News 215A, Gallup Proposed (Solid lines), Dismissed filing (dotted)

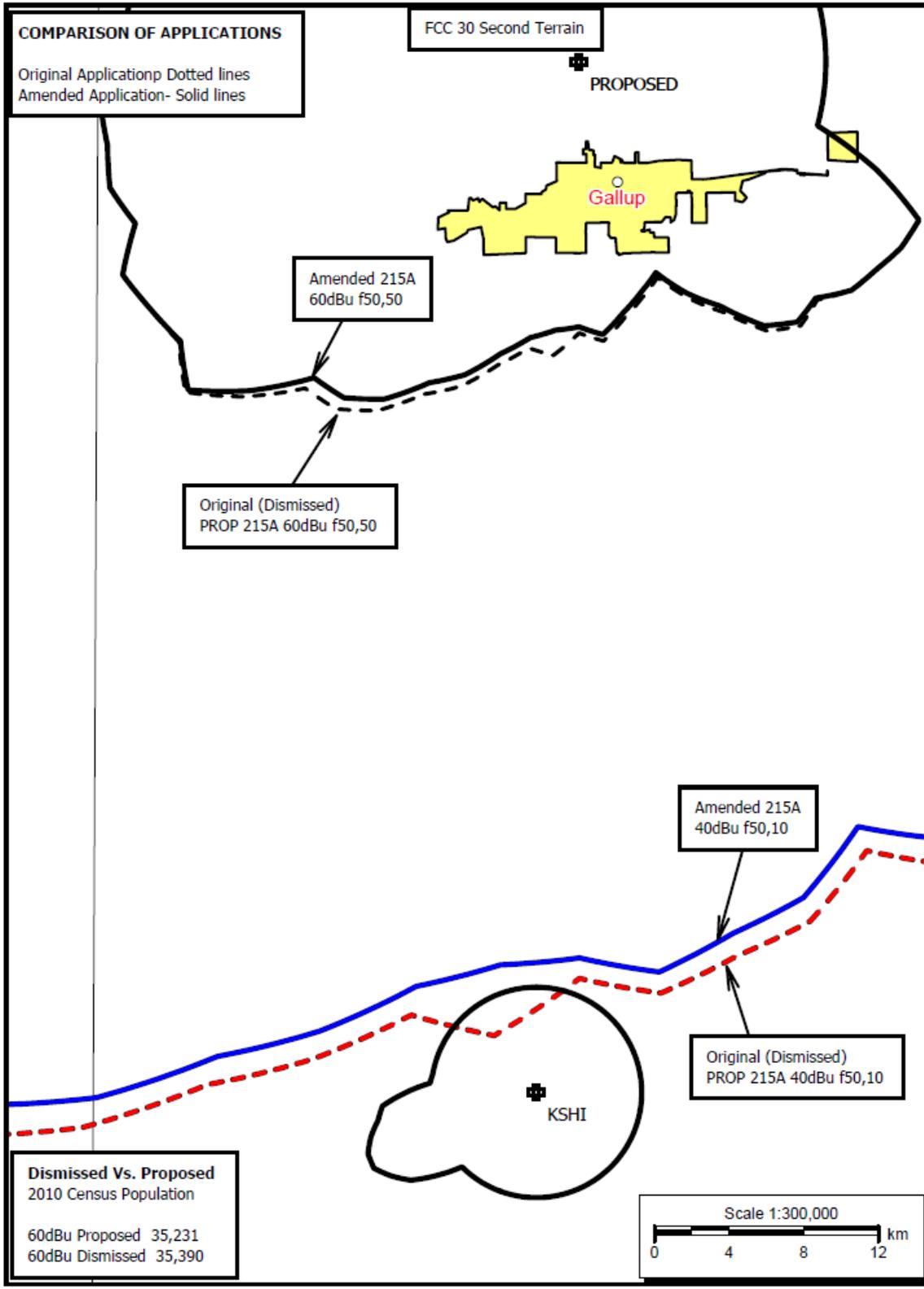


EXHIBIT D1 Distance to Contour- Proposed 215A 40dBu f50/10, FCC 30 Sec Terrain

Distance to Contour Report

Type of contour: FCC
Location Variability: 50.0 %
Time Variability: 10.0 %
of Radials Calculated: 72
FCC Matching HAAT Calculation Used
Field Strength: 40.00 dBuV/m

Primary Terrain: FCC 30 Second US Database

Transmitter Information:

Call Letters: PROPOSED (AMENDED)
File Number: 0000167858
Latitude: 35-35-10 N
Longitude: 108-45-53 W
ERP: 3.00 kW
Channel: 215
Frequency: 90.9 MHz
AMSL Height: 2115.1 m
Elevation: 2077.0 m
Horiz. Antenna Pattern: Directional
Vert. Elevation Pattern: No

Azimuth (deg)	Distance (km)
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90.0	53.28
100.0	53.28
110.0	63.97
120.0	68.78
130.0	66.67
140.0	64.90
150.0	55.31
160.0	43.62
170.0	47.42
180.0	48.02
185.0	48.76
190.0	50.30
200.0	56.70
210.0	64.53
220.0	68.78
230.0	79.68
240.0	78.86
250.0	77.06
260.0	77.48
270.0	77.73

EXHIBIT D2 Distance to Contour- KSHI 215A 60dBu f50/50, FCC 30 Sec Terrain

Distance to Contour Report

Type of contour: FCC
Location Variability: 50.0 %
Time Variability: 50.0 %
of Radials Calculated: 72
FCC Matching HAAT Calculation Used
Field Strength: 60.00 dBuV/m

Primary Terrain: FCC 30-Second US Database

Transmitter Information:

Call Letters: KSHI
File Number: BLED19860407KF
Latitude: 35-05-18.10 N
Longitude: 108-47-24.20 W
ERP: 0.10 kW
Channel: 215
Frequency: 90.9 MHz
AMSL Height: 1996.0 m
Elevation: 1967.0 m
Horiz. Antenna Pattern: Omni
Vert. Elevation Pattern: No

Azimuth (deg)	Distance (km)
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0.0	5.64
10.0	5.64
20.0	5.64
30.0	5.64
40.0	5.64
50.0	5.64
60.0	5.64
70.0	5.64
80.0	5.64
90.0	5.64
270.0	6.99
280.0	5.64
290.0	5.64
300.0	5.64
310.0	5.64
320.0	5.64
330.0	5.64
340.0	5.64
350.0	5.64