

**Goldman Engineering Management  
Auburn, CA**

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K235DC

**LICENSE MODIFICATION APPLICATION**

This application is being filed on behalf of The Evans Broadcast Company, Inc. and requests a minor modification to the license for K235DC, License number 0000100991, Facility ID 156756.

The purpose of this application is to change the location of the facility and change the primary station to KRFN (FM), facility ID 48683. The KRFN HD2 programming will be duplicated on the K235DC translator.

**Facilities Proposed**

Location (NAD83)	39° 35' 2.6" N Latitude, 119° 48' 9.6" W Longitude
Channel	235D (94.9MHz)
Tower Overall AGL Height-	60m
Tower ASR	NONE (Existing tower)
Proposed Antenna	Nicom BKG-77/2- 0.5
Antenna AGL Height-	21m
Site AMSL Height-	1,691m
COR AMSL Height	1,712m
ERP	125w NON- DIRECTIONAL

**ALLOCATION**

A channel study is included as Exhibit B demonstrating compliance with 74.1204(a). FCC 30 second terrain data was used. Please see Exhibit D for DTC tables to KNVC-LP. Exhibit B demonstrates relationships to other nearby facilities. Exhibit B also demonstrates compliance with 74.1201(g). The 60dBu contour of the proposed K235DC will be contained entirely within the 60dBu contour of KRFN. Exhibit C demonstrates compliance with 74.1204(d). There will be no location at ground level where interference will exist to either 2<sup>nd</sup> adjacent KUUB (233C2) or

3<sup>rd</sup> adjacent KNEV (238C). The proposed facility is not within 320km of the Canadian or Mexican border.

As shown in Exhibit B, the proposed relocation will be compliant with 74.1233(a)(1)(i). The proposed 60dBu contour provides 1mV/m (60dBu) to some portion of the currently licensed 1mV/m service area.

#### RF Exposure Calculations

As stated above, the proposed K235DC site would be co-located on the existing KRAT tower at 21m AGL. The environmental concerns listed in Section 1.1307(a) of the Commission's rules are not pertinent; therefore, those issues have not been addressed.

Using the FCC program "FM Model"<sup>1</sup>, it was calculated that the proposed antenna contributes approximately 2.4µW/cm<sup>2</sup> or 1.2 % of the total allowable 200 µW/cm<sup>2</sup>. The maximum was found to be 35 meters from the base of the tower.

Based upon the above evaluation, the proposed antenna will not cause the RF density at the tower site to exceed public exposure limits and contributes less than 5% of the MPE at ground level. Based upon the preceding, this proposed facility is excluded from further Environmental Assessment under 47CFR 1.1306 and 1.1307.

#### CERTIFICATION

The undersigned hereby certifies that the foregoing statement and associated attachments were prepared by him or under his direct supervision, and that they are true and correct to the best of his knowledge and belief.



Bertram S. Goldman

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<sup>1</sup> <https://www.fcc.gov/general/fm-model>

## EXHIBIT A CHANNEL STUDY

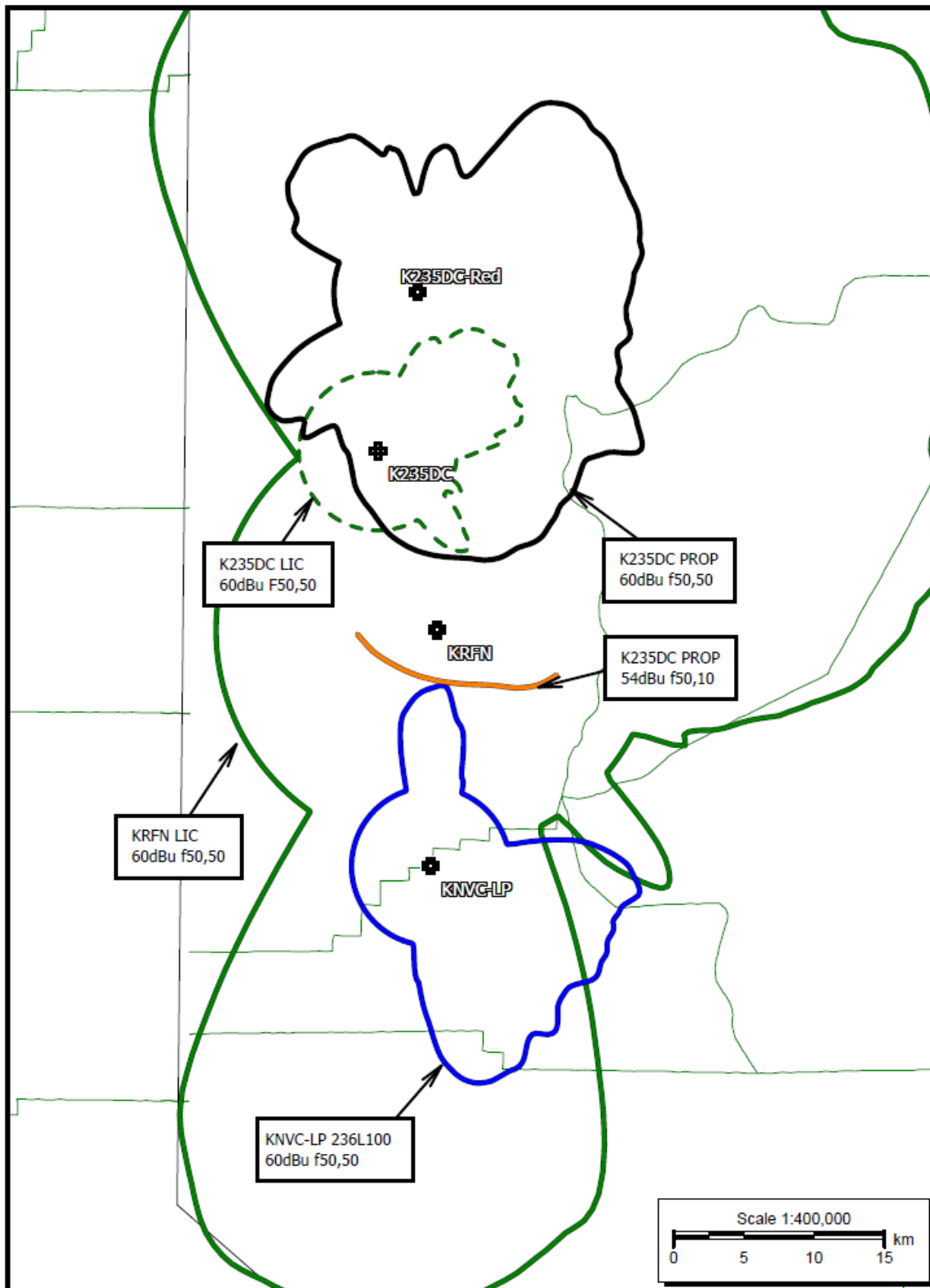
ComStudy 2.2 search of channel 235 (94.9 MHz Class A) at 39-35-02.6 N, 119-48-09.6 W.

CALL	CITY	ST CHN CL	DIST	SEP	BRNG	CLEARANCE
KUUB	SUN VALLEY	NV 233 C2	0.31	55.00	95.7	-72.93 dB 2nd Adj- Exhibit C
KNEV	RENO	NV 238 C	37.01	95.00	166.9	-23.62 dB 3rd Adj- Exhibit C
KNVC-LP	CARSON CITY	NV 236 LP100	40.84	56.00	178.7	0.15 dB Exhibit B
KOZZ-FM	RENO	NV 289 C	30.87	29.00	193.1	1.9 IF OK
K232EA	CARSON CITY	NV 232 D	41.20	0.00	176.1	14.45 dB
KYHW-LP	GARDNERVILLE	NV 234 LP100	75.01	56.00	175.2	17.38 dB
K236AP	FALLON	NV 236 D	90.81	0.00	96.3	25.01 dB
KMXI	CHICO	CA 236 B	169.34	113.00	284.4	33.03 dB
KFOK-LP	GEORGETOWN	CA 236 LP100	114.83	56.00	229.7	34.71 dB
KKDO	FAIR OAKS	CA 234 B1	166.52	96.00	233.0	34.12 dB
KHOP	OAKDALE	CA 236 B	208.42	113.00	197.6	36.73 dB

LMS data as of 9/1/2021

EXHIBIT B-

K235DC Compliance with 74.1204(a), 74.1201(g), 74.1233(a)



## EXHIBIT C- 74.1204 (d) Compliance

K235DC PROP Reno, NV, Showing Protection to KNEV , Channel: 238  
 Geographic Coordinates: N. 39 12 59.00 W. 119 47 31.00  
 74.1204(d) Study - Using NED 03 SEC Terrain Database  
 Translator or LPFM Maximum Licensed ERP = 0.125 kW, Channel: 235  
 Translator or LPFM Antenna Height AG = 21 meters  
 K235DC PROP Antenna Azimuth Model = Vertical Model Name = SHPX2H

Protected Station's Contour = 103.2592 dBu  
 Translator's or LPFM's full Interference contour 143.2592

Review Azimuth = 0 Degrees True  
 Horizontal Relative Field at Review Azimuth = 0.030  
 Translator/LPFM ERP on the horizontal at Review Azimuth = 0.0 kW  
 Distance between stations = 8.8 km  
 Protected Station= KNEV, 71 kW, 2339 M meters COR AMSL

Depression Angle From Degree(Deg) (m)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground
00.00	1.0	0.03	0.0037	000.9334	000.9334	021.000
05.00	0.984	0.03	0.0036	000.9184	000.9149	020.920
10.00	0.938	0.03	0.0033	000.8755	000.8622	020.848
15.00	0.865	0.03	0.0028	000.8074	000.7799	020.791
20.00	0.772	0.03	0.0022	000.7206	000.6771	020.754
25.00	0.665	0.03	0.0017	000.6207	000.5625	020.738
30.00	0.553	0.03	0.0011	000.5162	000.4470	020.742
35.00	0.442	0.03	0.0007	000.4126	000.3379	020.763
40.00	0.339	0.03	0.0004	000.3164	000.2424	020.797
45.00	0.248	0.03	0.0002	000.2315	000.1637	020.836
50.00	0.172	0.03	0.0001	000.1605	000.1032	020.877
55.00	0.112	0.03	0.0000	000.1045	000.0600	020.914
60.00	0.068	0.03	0.0000	000.0635	000.0317	020.945
65.00	0.037	0.03	0.0000	000.0345	000.0146	020.969
70.00	0.018	0.03	0.0000	000.0168	000.0057	020.984
75.00	0.007	0.03	0.0000	000.0065	000.0017	020.994
80.00	0.002	0.03	0.0000	000.0019	000.0003	020.998
85.00	0.001	0.03	0.0000	000.0009	000.0001	020.999
90.00	0.0	0.03	0.0000	000.0001	000.0000	021.000

# EXHIBIT C (cont'd)- 74.1204 (d) Compliance

K235DC PROP Reno, NV, Showing Protection to KUUB , Channel: 233

Geographic Coordinates: N. 39 12 59.00 W. 119 47 31.00

74.1204(d) Study - Using NED 03 SEC Terrain Database

Translator or LPFM Maximum Licensed ERP = 0.125 kW, Channel: 235

Translator or LPFM Antenna Height AG = 21 meters

K235DC PROP Antenna Azimuth Model = Vertical Model Name = SHPX2H

Protected Station's Contour = 72.48393 dBu

Translator's or LPFM's full Interference contour 112.48393

Review Azimuth = 0 Degrees True

Horizontal Relative Field at Review Azimuth = 0.030

Translator/LPFM ERP on the horizontal at Review Azimuth = 0.0 kW

Distance between stations = 40.9 km

Protected Station= KUUB, 50 kW, 1698 M meters COR AMSL

Depression Angle From Degree(Deg) (m)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground
00.00	1.0	0.03	0.0037	032.2715	032.2715	021.000
05.00	0.984	0.03	0.0036	031.7552	031.6343	018.232
10.00	0.938	0.03	0.0033	030.2707	029.8108	015.744
15.00	0.865	0.03	0.0028	027.9148	026.9637	013.775
20.00	0.772	0.03	0.0022	024.9136	023.4111	012.479
25.00	0.665	0.03	0.0017	021.4605	019.4499	011.930
30.00	0.553	0.03	0.0011	017.8461	015.4552	012.077
35.00	0.442	0.03	0.0007	014.2640	011.6844	012.819
40.00	0.339	0.03	0.0004	010.9400	008.3806	013.968
45.00	0.248	0.03	0.0002	008.0033	005.6592	015.341
50.00	0.172	0.03	0.0001	005.5507	003.5679	016.748
55.00	0.112	0.03	0.0000	003.6144	002.0731	018.039
60.00	0.068	0.03	0.0000	002.1945	001.0972	019.100
65.00	0.037	0.03	0.0000	001.1940	000.5046	019.918
70.00	0.018	0.03	0.0000	000.5809	000.1987	020.454
75.00	0.007	0.03	0.0000	000.2259	000.0585	020.782
80.00	0.002	0.03	0.0000	000.0645	000.0112	020.936
85.00	0.001	0.03	0.0000	000.0323	000.0028	020.968
90.00	0.0	0.03	0.0000	000.0032	000.0000	020.99

## EXHIBIT C- Pertinent Distance to Contour Tables

### Distance to Contour Report KNVC-LP

Type of contour: FCC  
Location Variability: 50.0 %  
Time Variability: 50.0 %  
# of Radials Calculated: 360  
FCC Matching HAAT Calculation Used  
Field Strength: 60.00 dBuV/m

Primary Terrain: FCC 30 Second US Database

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Transmitter Information:

**Call Letters: KNVC-LP**

File Number: BLL20170221ACK

Latitude: 39-12-58.70 N

Longitude: 119-47-29.90 W

ERP: 0.10 kW

Channel: 236

Frequency: 95.1 MHz

AMSL Height: 1698.0 m

Elevation: 1687.0 m

Horiz. Antenna Pattern: Omni

Vert. Elevation Pattern: No

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Azimuth (deg)	Distance (km)
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340.0	5.64
341.0	5.64
342.0	5.64
343.0	6.28
344.0	7.20
345.0	8.09
346.0	8.92
347.0	9.67
348.0	10.29
349.0	10.77
350.0	11.07
351.0	11.29
352.0	11.51
353.0	11.74
354.0	11.95
355.0	12.13
356.0	12.28
357.0	12.41
358.0	12.51
359.0	12.60

0.0	12.66
1.0	12.73
2.0	12.81
3.0	12.87
4.0	12.86
5.0	12.82
6.0	12.49
7.0	11.98
8.0	11.45
9.0	10.98
10.0	10.60
11.0	10.39
12.0	10.21
13.0	9.98
14.0	9.58
15.0	9.00
16.0	8.36
17.0	7.71
18.0	7.10
19.0	6.74
20.0	6.59



## Distance to Contour Report K235DC PROP

Type of contour: FCC  
Location Variability: 50.0 %  
Time Variability: 10.0 %  
# of Radials Calculated: 360  
FCC Matching HAAT Calculation Used  
Field Strength: 54.00 dBuV/m

Primary Terrain: FCC 30 Second US Database

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Transmitter Information:

### Call Letters: K235DC-PROP

File Number: PROP  
Latitude: 39-35-02.60 N  
Longitude: 119-48-09.60 W  
ERP: 0.125 kW  
Channel: 235  
Frequency: 94.9 MHz  
AMSL Height: 1682.0 m  
Elevation: 1661.0 m  
Horiz. Antenna Pattern: Omni  
Vert. Elevation Pattern: No  
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Azimuth (deg)	Distance (km)
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160.0	28.96
161.0	29.08
162.0	29.18
163.0	29.21
164.0	29.19
165.0	29.11
166.0	29.00
167.0	28.83
168.0	28.64
169.0	28.48
170.0	28.36
171.0	28.26
172.0	28.16
173.0	28.08
174.0	27.98
175.0	27.88
176.0	27.78
177.0	27.67
178.0	27.53
179.0	27.40
180.0	27.26
181.0	27.08

182.0	26.90
183.0	26.69
184.0	26.47
185.0	26.25
186.0	26.02
187.0	25.75
188.0	25.41
189.0	25.05
190.0	24.68