

KJJJ(FM) 272C1
Lake Havasu City, AZ
Proposed Minor Modification
Of Licensed Facility
and change of
Community of License

The instant application is being contemporaneously and contingently filed with 301 Applications submitted by the following parties:

Yavapai Broadcasting Corporation (“Yavapai”), licensee of KQST(FM) Sedona, AZ
Smoke and Mirrors, LLC (“Smoke”), licensee of KFTT(FM) Bagdad, AZ
RBG Licenses of Las Vegas, LLC (“RBG”), licensee of KVGS(FM) Laughlin, NV
Steven M. Greeley (“Greeley”), licensee of KJJJ(FM) Lake Havasu City, AZ

In its application, Yavapai proposes to modify the antenna site coordinates of KQST(FM) and downgrade from Channel 275C to 275C0. In order for the KQST(FM) change to occur, Smoke proposes a Channel Substitution for KFTT(FM) of Channel 299C3 in place of Channel 276C3. In order for the KFTT(FM) channel change to occur, RBG proposes to change KVGS(FM)’s community of license from Laughlin, NV, to Meadview, AZ, and modify both its reference coordinates and its antenna site coordinates. In order for to provide continuing local transmission service at Laughlin, NV, upon KVGS(FM)’s community change to Meadview, Greeley proposes that KJJJ(FM) shall, first, change its community of license from Lake Havasu City, AZ, to Laughlin, NV, modify its reference coordinates and antenna site, and upgrade from Channel 272C2 to mutually exclusive Channel 272C1. Consequently, each of the four applications is contingent upon the others.

KJJJ(FM), by this application, proposes to modify its currently licensed facilities to specify a new antenna site using the following parameters:

Channel:	272
Class:	C1
Antenna Coordinates:	N35-01-58, W114-21-57 (NAD 27)
Reference Coordinates:	N34-52-19, W114-25-32 (NAD 27)
ASRN:	Not Applicable
Tower Height AMSL:	60 m
COR AMSL:	1367 m
COR AGL:	26 m
COR HAAT:	576 m
ERP:	17 kW
Directional Antenna:	YES (See Exhibit 7 for Azimuth Pattern)

The instant application proposes a community of license change for KJJJ(FM) from Lake Havasu City, AZ, to Laughlin, NV, and upgrade from Channel 272C2 to mutually exclusive channel 272C1. As such, a fully spaced reference coordinate in accordance with Section 73.207 must be provided. The applicant has selected the following reference coordinates for the community change and upgrade:

KJJJ(FM) 73.207 Reference Coordinates: N34-52-19, W114-25-32 (NAD 27)

Exhibit 1 is a channel spacings study from these reference coordinates demonstrating that the proposed facility is fully spaced towards all applications, authorizations, and permits pursuant to Section 73.207 with the exception of its currently licensed facilities. Exhibit 2 is a city-grade contour map from the proposed reference site easily demonstrating requisite coverage of Laughlin, NV, with both an F(50,50) 70 dBu contour and a theoretical Class C1 circle contour used for allotment purposes.

As can be seen in Exhibit 3, KJJJ's proposed community of license, Laughlin, NV, entirely within the FCC predicted F(50,50) 70 dBu contour using the facilities proposed herein. Exhibit 4 is an antenna site channel spacings study demonstrating that the proposed facility is fully spaced towards all applications, authorizations, and permits pursuant to Section 73.207 with the exception the unused Vacant Allotment on Channel 272C3 at Pahrump, NV. The applicant respectfully requests Section 73.215 Contour Protection Processing towards this Vacant Allotment.

KJJJ(FM) may request 73.215 Contour Protection towards the Vacant Allotment on Channel 272C3 at Pahrump, NV, as it complies with the minimum separation requirements towards the co-channel station at its proposed antenna site. The channel spacings study in Exhibit 4 shows that the proposed KJJJ(FM) 272C1 Antenna Location is spaced 202.17 kilometers from the Vacant Allotment. In order to be eligible for 73.215 Contour Protection, the minimum "C1 to C3" spacings for co-channel stations must be at least 200 kilometers. The proposed KJJJ(FM) 272C1 Antenna Location satisfies this requirement by 2.17 kilometers.

Using the facilities proposed herein, KJJJ(FM) 272C1 complies with the Contour Protection requirements of Part 73.215 towards the Vacant Allotment at Pahrump. The attached overlap tabulation studies in Exhibits 5 and 6 demonstrate that this application complies with the Contour Protection Requirements of Section 73.215

In reviewing the attached studies, it should be noted that "Maximized" Class C3 Facilities – 25 kW at an HAAT of 199 meters – were assumed for the Vacant Allotment at Pahrump.

Using the KJJJ(FM) 272C1 technical parameters proposed in this application, Exhibit 5 demonstrates that the F(50,50) 60 dBu Contour for KJJJ(FM) does not overlap the F(50,10) 40 dBu Interfering Contour of the Vacant Allotment at Pahrump. Likewise, Exhibit 6 demonstrates that the F(50,50) 60 dBu Contour for the Vacant Allotment at Pahrump does not overlap the F(50,10) 40 dBu Interfering Contour of the instant KJJJ(FM) application on 272C1.

The proposed antenna site utilizes an existing tower which does not require FAA Registration or NEPA/SHPO notification.

Due to the fact that several existing and proposed emitters are located at or near the site, the applicant agrees to conduct a Radiofrequency Electromagnetic Field survey at the site upon construction to ensure that any areas at ground level that exceed the Commission's exposure guideline values are appropriately marked and fenced. The results of the survey will be provided with the application for license. When it becomes necessary for workers to ascend the tower, appropriate measures, such as reduction or shut down of power if necessary, shall be taken to ensure that the human exposure to radiofrequency radiation will not exceed the FCC guidelines. The proposed facility should be exempt from environmental processing because the facility would not be located at a location specified in Section 1.1307(a)(1)-(8) of the Commission's Rules.

KJJJ 272C1 Laughlin, NV
Reference Site Channel Study

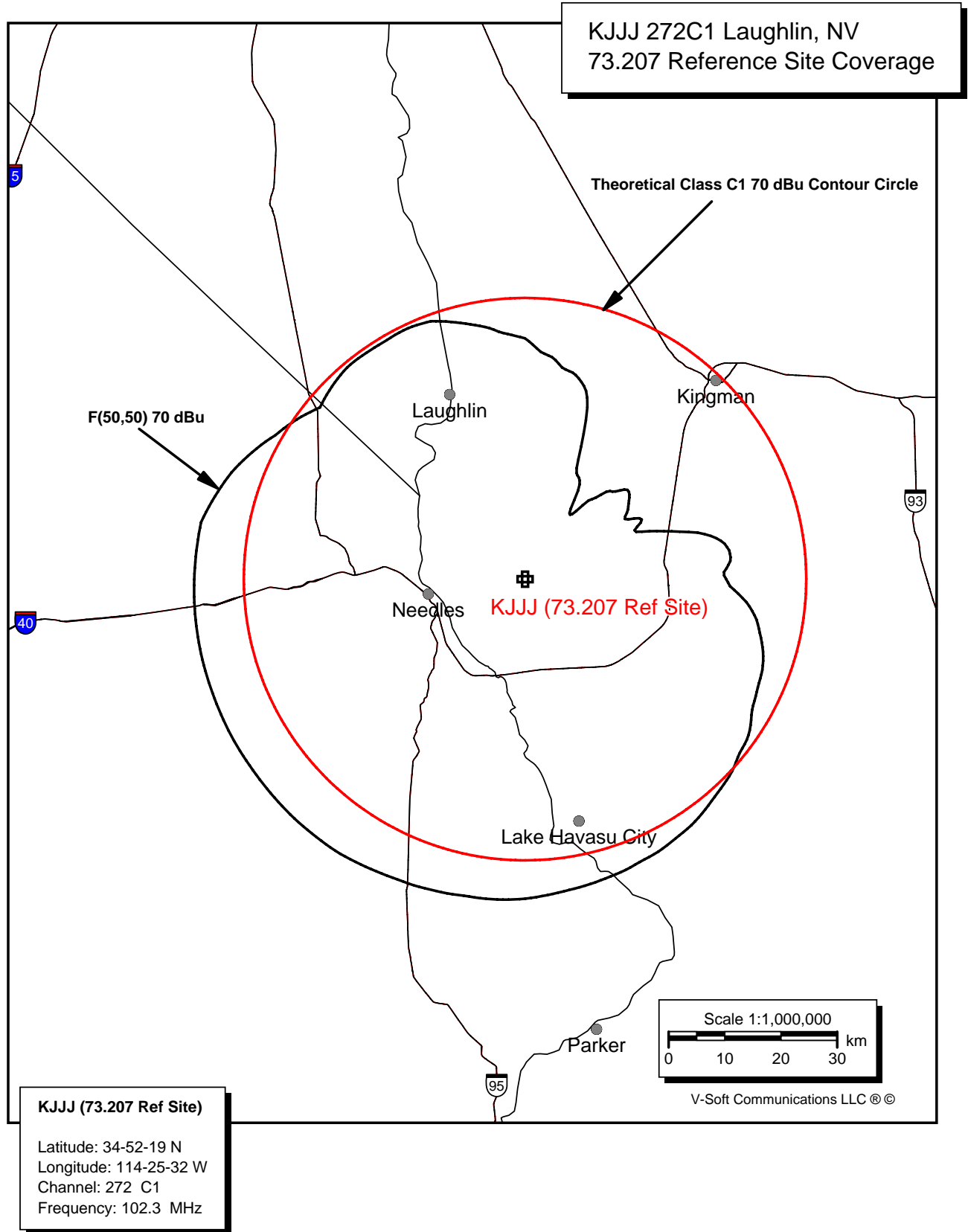
REFERENCE
34 52 19 N.
114 25 32 W.

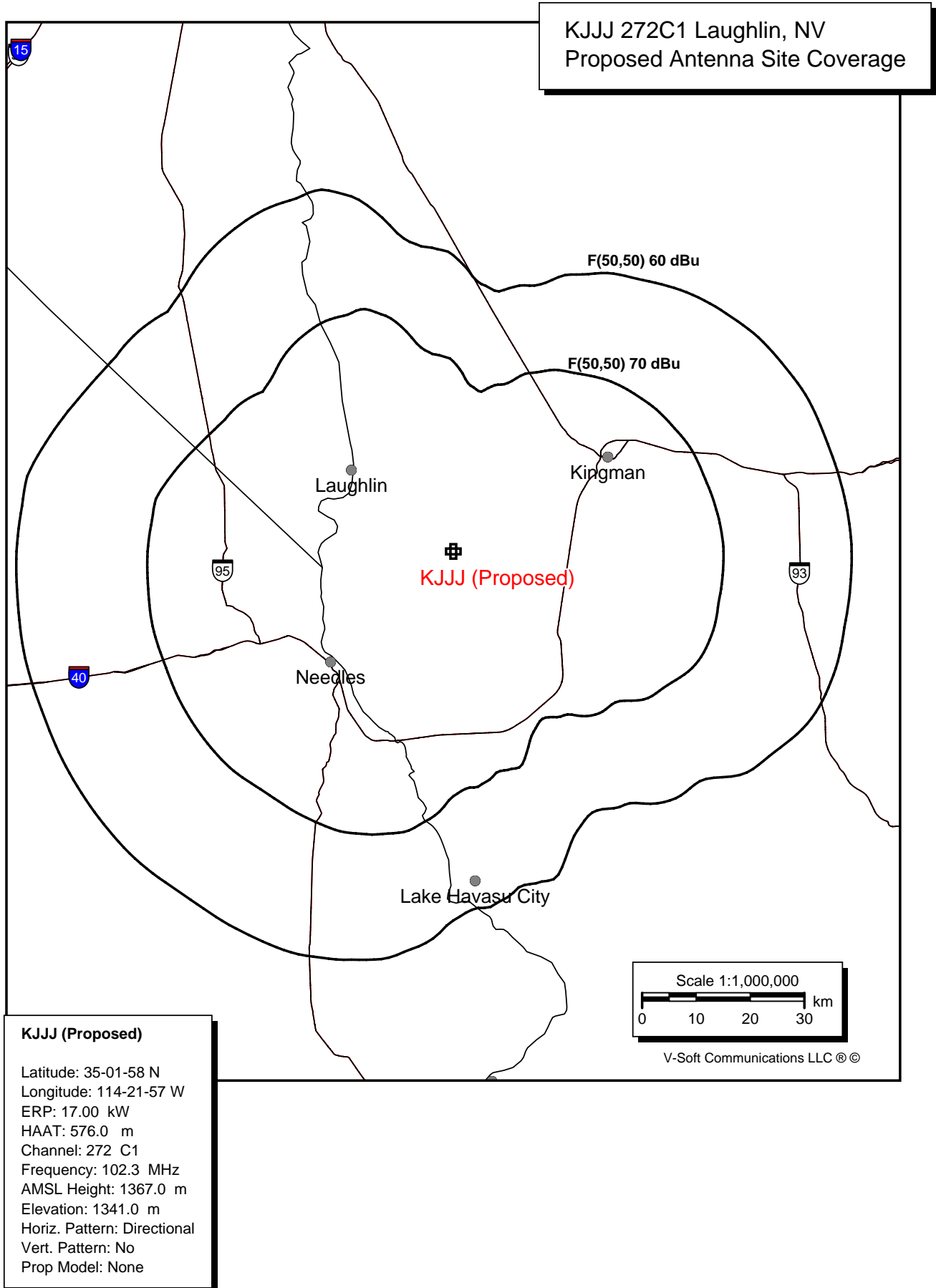
CLASS = C1 Int = C1
Current Spacings

DISPLAY DATES
DATA 01-10-07
SEARCH 01-22-07

----- Channel 272 - 102.3 MHz -----

Call		Channel	Location		Azi	Dist	FCC	Margin
KJJJ	LIC	272C2	Lake Havasu City	AZ	149.2	41.40	224.0	-182.60
ALLO	USE	272C2	Lake Havasu City	AZ	149.2	41.40	224.0	-182.60
Of No Concern: Currently authorized KJJJ facilities.								
ALLO	USE	271C	Prescott	AZ	100.8	186.67	209.0	-22.33
Of No Concern: KAHM 271C holds a license preempting this entry.								
KJJZ	LIC-N	272A	Indio	CA	236.6	199.53	200.0	-0.47
AL1890	VAC	272C3	Pahrump	NV	316.5	210.67	211.0	-0.33
KAHM	LIC	271C	Prescott	AZ	94.9	212.30	209.0	3.30
ALLO	USE	272A	Indio	CA	232.6	208.49	200.0	8.49
ALLO	USE	274C	Boulder City	NV	342.5	130.88	105.0	25.88
KSTJ	LIC	274C	Boulder City	NV	335.1	131.69	105.0	26.69
KDUQ	LIC	273A	Ludlow	CA	264.5	160.30	133.0	27.30
ALLO	USE	273A	Ludlow	CA	264.5	160.30	133.0	27.30
ALLO	USE	270C	Las Vegas	NV	337.6	136.56	105.0	31.56
KWID	LIC	270C	Las Vegas	NV	337.6	136.62	105.0	31.62
RDEL	DEL	269C3	Bagdad	AZ	107.9	114.82	76.0	38.82
AL2928	VAC	269C3	Bagdad	AZ	104.6	116.03	76.0	40.03
970822MA	APP	218B	Kingman	AZ	239.4	76.78	27.0	49.78
970822MA	APP	218B	Kingman	AZ	239.4	76.78	27.0	49.78
AP4085	APP	270A	Salome	AZ	148.2	130.83	75.0	55.83
KZXY-FM	LIC-D	272A	Apple Valley	CA	259.3	258.19	200.0	58.19
ALLO M	USE	272A	Apple Valley	CA	259.3	258.19	200.0	58.19
RDEL	DEL	275C3	Quartzsite	AZ	172.3	135.22	76.0	59.22
AL1221	VAC	275C3	Quartzsite	AZ	172.3	135.22	76.0	59.22
AL5595	VAC	273C1	Grand Canyon Village	AZ	56.9	243.94	177.0	66.94
AU6258628	USE	270A	Salome	AZ	148.1	142.26	75.0	67.26
NEW	CP	270A	Salome	AZ	148.1	142.26	75.0	67.26
KNIX-FM	LIC	273C	Phoenix	AZ	127.6	276.78	209.0	67.78
ALLO M	USE	273C	Phoenix	AZ	127.6	276.78	209.0	67.78
XHLPSFM	OPE	273B	San Luis Rio Colorado	SO	187.2	266.20	195.0	71.20
XHLPSFM	OPE	273B	San Luis Rio Colorado	SO	187.2	266.20	195.0	71.20
XHLPSFM	OPE	273B	San Luis Rio Colorado	SO	187.2	266.20	195.0	71.20





KJJJ 272C1 Laughlin, NV
Antenna Site Channel Study

REFERENCE	CLASS = C1 Int = C1	DISPLAY DATES
35 01 58 N.	Current	DATA 01-10-07
114 21 57 W.	Spacings	SEARCH 01-22-07
----- Channel 272 - 102.3 MHz -----		

Call	Channel	Location	Azi	Dist	FCC	Margin
ALLO	USE	272C2 Lake Havasu City	AZ 163.6	55.65	224.0	-168.35
KJJJ	LIC	272C2 Lake Havasu City	AZ 163.6	55.65	224.0	-168.35
Of No Concern: Currently authorized KJJJ facilities.						
ALLO	USE	271C Prescott	AZ 106.6	185.58	209.0	-23.42
Of No Concern: KAHM 271C holds a license preempting this entry.						
AL1890	VAC	272C3 Pahrump	NV 311.9	202.17	211.0	-8.83
Of Concern: Applicant requests Section 73.215 Contour Protection Processing towards this Vacant Allotment.						
KAHM	LIC	271C Prescott	AZ 100.0	209.19	209.0	0.19
ALLO	USE	274C Boulder City	NV 337.3	116.01	105.0	11.01
KSTJ	LIC	274C Boulder City	NV 329.1	118.49	105.0	13.49
KJJZ	LIC-N	272A Indio	CA 233.4	214.21	200.0	14.21
ALLO	USE	270C Las Vegas	NV 332.1	122.75	105.0	17.75
KWID	LIC	270C Las Vegas	NV 332.1	122.80	105.0	17.80
ALLO	USE	272A Indio	CA 229.8	223.90	200.0	23.90
KDUQ	LIC	273A Ludlow	CA 258.7	168.30	133.0	35.30
ALLO	USE	273A Ludlow	CA 258.7	168.30	133.0	35.30
RDEL	DEL	269C3 Bagdad	AZ 117.2	116.61	76.0	40.61
AL2928	VAC	269C3 Bagdad	AZ 113.9	116.73	76.0	40.73
AL5595	VAC	273C1 Grand Canyon Village	AZ 60.0	229.98	177.0	52.98
970822MA	APP	218B Kingman	AZ 231.5	91.40	27.0	64.40
970822MA	APP	218B Kingman	AZ 231.5	91.40	27.0	64.40
KZXY-FM	LIC-D	272A Apple Valley	CA 255.8	267.35	200.0	67.35
ALLO M	USE	272A Apple Valley	CA 255.8	267.35	200.0	67.35
AP4085	APP	270A Salome	AZ 153.8	143.77	75.0	68.77
ALLO M	USE	273C Phoenix	AZ 131.1	283.83	209.0	74.83
KNIX-FM	LIC	273C Phoenix	AZ 131.1	283.83	209.0	74.83

Exhibit 5

01-22-2007 30 Sec. Terrain Data

KJJJ PROPOSED
Channel = 272C1
Max ERP = 17 kW
RCAMSL = 1367 M
N. Lat = 35 01 58
W. Lng = 114 21 57

AL1890 RM10854
Channel = 272C3
Max ERP = 25 kW
RCAMSL = 986 M
N. Lat = 36 14 09
W. Lng = 116 02 32

Protected
60 dBu

Interfering
40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
261.0	017.0000	0822.4	081.2	153.7	025.0000	0194.4	162.8	33.7
262.0	017.0000	0820.0	081.1	153.5	025.0000	0194.4	161.5	33.9
263.0	017.0000	0817.5	081.0	153.4	025.0000	0192.9	160.2	34.1
264.0	017.0000	0815.4	081.0	153.2	025.0000	0192.9	158.9	34.3
265.0	017.0000	0813.8	080.9	153.0	025.0000	0192.9	157.6	34.6
266.0	017.0000	0812.4	080.9	152.8	025.0000	0192.9	156.3	34.8
267.0	017.0000	0810.9	080.8	152.5	025.0000	0192.9	155.0	35.0
268.0	017.0000	0809.4	080.8	152.3	025.0000	0191.2	153.8	35.2
269.0	017.0000	0807.7	080.7	152.1	025.0000	0191.2	152.5	35.4
270.0	017.0000	0805.9	080.7	151.8	025.0000	0191.2	151.3	35.6
271.0	017.0000	0803.2	080.6	151.5	025.0000	0191.2	150.1	35.8
272.0	017.0000	0800.1	080.5	151.2	025.0000	0189.4	148.9	35.9
273.0	017.0000	0796.8	080.4	150.9	025.0000	0189.4	147.7	36.1
274.0	017.0000	0793.4	080.3	150.6	025.0000	0189.4	146.6	36.3
275.0	017.0000	0790.0	080.2	150.3	025.0000	0187.6	145.5	36.5
276.0	017.0000	0786.7	080.1	149.9	025.0000	0187.6	144.4	36.7
277.0	017.0000	0785.6	080.1	149.6	025.0000	0187.6	143.3	36.9
278.0	017.0000	0785.5	080.1	149.2	025.0000	0185.9	142.2	37.0
279.0	017.0000	0784.0	080.0	148.9	025.0000	0185.9	141.1	37.2
280.0	017.0000	0781.4	079.9	148.5	025.0000	0184.1	140.1	37.4
281.0	016.5944	0778.2	079.6	148.0	025.0000	0184.1	139.3	37.5
282.0	016.1938	0774.5	079.2	147.5	025.0000	0182.2	138.6	37.6
283.0	015.7980	0769.7	078.8	147.0	025.0000	0182.2	137.9	37.8
284.0	015.4072	0764.4	078.3	146.4	025.0000	0180.3	137.3	37.9
285.0	015.0212	0759.6	077.9	145.9	025.0000	0180.3	136.7	38.0
286.0	014.6401	0755.2	077.5	145.3	025.0000	0178.2	136.1	38.0
287.0	014.2640	0750.7	077.0	144.8	025.0000	0178.2	135.6	38.1
288.0	013.8927	0745.9	076.6	144.2	025.0000	0176.0	135.2	38.2
289.0	013.5263	0741.5	076.2	143.6	025.0000	0176.0	134.7	38.2
290.0	013.1648	0737.9	075.7	143.1	025.0000	0174.1	134.3	38.3
291.0	012.7198	0735.1	075.3	142.5	025.0000	0172.3	134.0	38.3
292.0	012.2825	0733.5	074.8	141.9	025.0000	0172.3	133.7	38.4
293.0	011.8528	0732.8	074.4	141.3	025.0000	0170.4	133.4	38.4
294.0	011.4308	0733.0	074.0	140.8	025.0000	0170.4	133.2	38.4
295.0	011.0164	0733.6	073.6	140.2	025.0000	0168.5	133.0	38.4
296.0	010.6097	0734.8	073.3	139.6	025.0000	0168.5	132.8	38.5
297.0	010.2106	0736.7	072.9	139.1	025.0000	0166.8	132.6	38.4
298.0	009.8192	0739.6	072.6	138.5	025.0000	0165.3	132.4	38.4
299.0	009.4354	0743.3	072.3	137.9	025.0000	0165.3	132.3	38.5
300.0	009.0593	0747.2	072.0	137.4	025.0000	0163.9	132.2	38.4
301.0	008.8618	0750.5	071.8	136.8	025.0000	0163.9	131.9	38.5
302.0	008.6665	0752.8	071.7	136.3	025.0000	0162.6	131.7	38.5
303.0	008.4734	0753.9	071.5	135.7	025.0000	0162.6	131.6	38.5
304.0	008.2825	0754.2	071.2	135.2	025.0000	0161.2	131.6	38.5
305.0	008.0937	0753.2	070.9	134.6	025.0000	0161.2	131.7	38.5
306.0	007.9071	0750.7	070.6	134.1	025.0000	0159.6	131.8	38.4
307.0	007.7227	0747.1	070.2	133.5	025.0000	0159.6	132.0	38.4
308.0	007.5405	0742.6	069.8	133.0	025.0000	0158.0	132.3	38.3
309.0	007.3604	0737.3	069.4	132.4	025.0000	0156.6	132.6	38.2
310.0	007.1825	0731.0	068.9	131.9	025.0000	0156.6	133.0	38.1

311.0	007.4501	0723.7	069.0	131.4	025.0000	0155.5	132.8	38.1
312.0	007.7227	0716.1	069.2	130.9	025.0000	0155.5	132.7	38.1
313.0	008.0001	0709.3	069.3	130.4	025.0000	0154.6	132.6	38.1
314.0	008.2825	0704.5	069.5	129.8	025.0000	0154.6	132.5	38.1
315.0	008.5697	0702.0	069.8	129.3	025.0000	0153.8	132.3	38.2
316.0	008.8618	0700.9	070.1	128.7	025.0000	0153.8	132.1	38.2
317.0	009.1589	0699.8	070.4	128.2	025.0000	0152.9	131.9	38.2
318.0	009.4608	0698.0	070.7	127.7	025.0000	0152.9	131.8	38.2
319.0	009.7676	0695.6	071.0	127.1	025.0000	0151.8	131.8	38.2
320.0	010.0793	0692.7	071.2	126.6	025.0000	0151.8	131.8	38.2
321.0	010.3693	0689.3	071.4	126.0	025.0000	0150.5	131.9	38.1
322.0	010.6635	0685.4	071.6	125.5	025.0000	0149.1	132.1	38.1
323.0	010.9618	0681.0	071.7	124.9	025.0000	0149.1	132.3	38.0
324.0	011.2641	0676.1	071.8	124.4	025.0000	0147.4	132.6	37.9
325.0	011.5706	0670.8	071.9	123.9	025.0000	0147.4	133.0	37.9
326.0	011.8812	0665.1	072.0	123.4	025.0000	0145.2	133.3	37.7
327.0	012.1960	0659.2	072.1	122.8	025.0000	0145.2	133.8	37.6
328.0	012.5148	0653.3	072.1	122.3	025.0000	0142.5	134.2	37.5
329.0	012.8377	0647.0	072.2	121.8	025.0000	0142.5	134.8	37.4
330.0	013.1648	0639.6	072.2	121.4	025.0000	0139.1	135.3	37.2
331.0	013.5263	0630.8	072.1	120.9	025.0000	0139.1	136.0	37.0
332.0	013.8927	0620.7	072.0	120.5	025.0000	0135.2	136.7	36.8
333.0	014.2640	0609.9	071.9	120.1	025.0000	0135.2	137.5	36.6
334.0	014.6401	0598.5	071.7	119.7	025.0000	0135.2	138.3	36.5
335.0	015.0212	0587.2	071.5	119.3	025.0000	0131.0	139.2	36.2
336.0	015.4072	0577.9	071.4	118.9	025.0000	0131.0	140.0	36.0
337.0	015.7980	0572.4	071.4	118.5	025.0000	0126.4	140.8	35.8
338.0	016.1938	0567.8	071.4	118.1	025.0000	0126.4	141.5	35.6
339.0	016.5944	0561.0	071.4	117.7	025.0000	0126.4	142.4	35.5
340.0	017.0000	0551.5	071.1	117.4	025.0000	0121.7	143.4	35.1
341.0	017.0000	0540.6	070.5	117.2	025.0000	0121.7	144.7	34.9
342.0	017.0000	0528.8	069.8	117.0	025.0000	0121.7	146.1	34.7
343.0	017.0000	0516.9	069.0	116.9	025.0000	0121.7	147.5	34.4
344.0	017.0000	0506.1	068.2	116.8	025.0000	0121.7	148.9	34.2
345.0	017.0000	0491.6	067.2	116.8	025.0000	0121.7	150.4	33.9
346.0	017.0000	0473.4	065.9	116.8	025.0000	0121.7	152.1	33.6
347.0	017.0000	0451.7	064.5	117.0	025.0000	0121.7	154.0	33.4
348.0	017.0000	0427.5	063.0	117.1	025.0000	0121.7	155.8	33.1
349.0	017.0000	0399.7	061.4	117.3	025.0000	0121.7	157.7	32.7
350.0	017.0000	0371.9	059.7	117.6	025.0000	0126.4	159.5	32.6
351.0	017.0000	0353.4	058.6	117.7	025.0000	0126.4	161.1	32.3
352.0	017.0000	0341.1	057.7	117.7	025.0000	0126.4	162.4	32.0
353.0	017.0000	0333.2	057.2	117.6	025.0000	0126.4	163.5	31.8
354.0	017.0000	0324.9	056.7	117.6	025.0000	0126.4	164.6	31.6
355.0	017.0000	0321.6	056.4	117.4	025.0000	0121.7	165.6	31.3
356.0	017.0000	0318.5	056.2	117.3	025.0000	0121.7	166.5	31.2
357.0	017.0000	0314.0	055.9	117.2	025.0000	0121.7	167.5	31.0
358.0	017.0000	0310.0	055.7	117.1	025.0000	0121.7	168.5	30.8
359.0	017.0000	0306.0	055.4	117.1	025.0000	0121.7	169.5	30.6

Exhibit 6

01-22-2007 30 Sec. Terrain Data

AL1890 RM10854
Channel = 272C3
Max ERP = 25 kW
RCAMSL = 986 M
N. Lat = 36 14 09
W. Lng = 116 02 32

KJJJ PROPOSED
Channel = 272C1
Max ERP = 17 kW
RCAMSL = 1367 M
N. Lat = 35 01 58
W. Lng = 114 21 57

Protected
60 dBu

Interfering
40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
067.0	025.0000	-0063.2	022.7	317.9	009.4430	0698.0	193.4	31.8
068.0	025.0000	-0065.1	022.7	317.9	009.4310	0698.0	193.0	31.9
069.0	025.0000	-0066.7	022.7	317.9	009.4178	0698.0	192.6	31.9
070.0	025.0000	-0067.8	022.7	317.8	009.4039	0698.0	192.3	32.0
071.0	025.0000	-0068.6	022.7	317.8	009.3895	0698.0	191.9	32.1
072.0	025.0000	-0069.1	022.7	317.7	009.3744	0698.0	191.6	32.1
073.0	025.0000	-0069.2	022.7	317.7	009.3587	0698.0	191.2	32.2
074.0	025.0000	-0069.5	022.7	317.6	009.3424	0698.0	190.9	32.2
075.0	025.0000	-0070.2	022.7	317.6	009.3255	0698.0	190.5	32.3
076.0	025.0000	-0070.9	022.7	317.5	009.3080	0699.8	190.2	32.4
077.0	025.0000	-0071.5	022.7	317.4	009.2900	0699.8	189.8	32.4
078.0	025.0000	-0071.6	022.7	317.4	009.2713	0699.8	189.5	32.5
079.0	025.0000	-0071.2	022.7	317.3	009.2520	0699.8	189.1	32.5
080.0	025.0000	-0070.2	022.7	317.2	009.2322	0699.8	188.8	32.6
081.0	025.0000	-0068.5	022.7	317.2	009.2118	0699.8	188.5	32.6
082.0	025.0000	-0066.4	022.7	317.1	009.1909	0699.8	188.2	32.7
083.0	025.0000	-0064.0	022.7	317.0	009.1694	0699.8	187.8	32.7
084.0	025.0000	-0061.2	022.7	317.0	009.1473	0699.8	187.5	32.8
085.0	025.0000	-0058.7	022.7	316.9	009.1247	0699.8	187.2	32.8
086.0	025.0000	-0056.4	022.7	316.8	009.1016	0699.8	186.9	32.8
087.0	025.0000	-0054.0	022.7	316.7	009.0779	0699.8	186.6	32.9
088.0	025.0000	-0051.8	022.7	316.6	009.0538	0699.8	186.3	32.9
089.0	025.0000	-0050.2	022.7	316.6	009.0291	0699.8	186.0	33.0
090.0	025.0000	-0048.5	022.7	316.5	009.0039	0700.9	185.8	33.0
091.0	025.0000	-0046.5	022.7	316.4	008.9783	0700.9	185.5	33.1
092.0	025.0000	-0044.3	022.7	316.3	008.9521	0700.9	185.2	33.1
093.0	025.0000	-0042.1	022.7	316.2	008.9255	0700.9	184.9	33.1
094.0	025.0000	-0039.7	022.7	316.1	008.8984	0700.9	184.7	33.2
095.0	025.0000	-0039.1	022.7	316.0	008.8709	0700.9	184.4	33.2
096.0	025.0000	-0041.2	022.7	315.9	008.8429	0700.9	184.2	33.2
097.0	025.0000	-0042.7	022.7	315.8	008.8145	0700.9	183.9	33.3
098.0	025.0000	-0042.5	022.7	315.7	008.7857	0700.9	183.7	33.3
099.0	025.0000	-0030.0	022.7	315.6	008.7565	0700.9	183.4	33.3
100.0	025.0000	-0013.1	022.7	315.5	008.7269	0700.9	183.2	33.3
101.0	025.0000	0003.8	022.7	315.4	008.6969	0702.0	183.0	33.4
102.0	025.0000	0013.3	022.7	315.3	008.6666	0702.0	182.8	33.4
103.0	025.0000	0016.6	022.7	315.2	008.6359	0702.0	182.6	33.4
104.0	025.0000	0020.0	022.7	315.1	008.6049	0702.0	182.4	33.5
105.0	025.0000	0026.0	022.7	315.0	008.5735	0702.0	182.2	33.5
106.0	025.0000	0035.7	024.4	315.2	008.6146	0702.0	180.5	33.8
107.0	025.0000	0044.3	026.9	315.4	008.6872	0702.0	178.0	34.4
108.0	025.0000	0052.5	029.2	315.6	008.7429	0700.9	175.8	34.9
109.0	025.0000	0061.3	031.3	315.7	008.7878	0700.9	173.6	35.4
110.0	025.0000	0072.2	033.8	315.9	008.8378	0700.9	171.2	36.0
111.0	025.0000	0083.0	036.0	316.0	008.8738	0700.9	169.0	36.6
112.0	025.0000	0092.5	037.8	316.1	008.8860	0700.9	167.1	37.0
113.0	025.0000	0099.9	039.1	316.0	008.8724	0700.9	165.6	37.4
114.0	025.0000	0106.2	040.1	315.9	008.8443	0700.9	164.5	37.7
115.0	025.0000	0111.9	040.9	315.8	008.8065	0700.9	163.4	37.9
116.0	025.0000	0116.9	041.6	315.7	008.7604	0700.9	162.5	38.1

117.0	025.0000	0121.7	042.3	315.5	008.7085	0702.0	161.7	38.3
118.0	025.0000	0126.4	042.9	315.3	008.6530	0702.0	160.9	38.5
119.0	025.0000	0131.0	043.5	315.1	008.5945	0702.0	160.1	38.6
120.0	025.0000	0135.2	044.0	314.9	008.5324	0702.0	159.4	38.8
121.0	025.0000	0139.1	044.5	314.6	008.4666	0702.0	158.7	38.9
122.0	025.0000	0142.5	045.0	314.4	008.3970	0704.5	158.1	39.1
123.0	025.0000	0145.2	045.4	314.1	008.3237	0704.5	157.6	39.2
124.0	025.0000	0147.4	045.6	313.9	008.2474	0704.5	157.2	39.2
125.0	025.0000	0149.1	045.9	313.6	008.1690	0704.5	156.8	39.3
126.0	025.0000	0150.5	046.1	313.3	008.0893	0709.3	156.5	39.4
127.0	025.0000	0151.8	046.2	313.0	008.0086	0709.3	156.3	39.4
128.0	025.0000	0152.9	046.4	312.7	007.9272	0709.3	156.1	39.4
129.0	025.0000	0153.8	046.5	312.4	007.8453	0716.1	155.9	39.5
130.0	025.0000	0154.6	046.6	312.1	007.7632	0716.1	155.8	39.4
131.0	025.0000	0155.5	046.7	311.8	007.6810	0716.1	155.7	39.4
132.0	025.0000	0156.6	046.8	311.5	007.5986	0716.1	155.5	39.4
133.0	025.0000	0158.0	047.0	311.2	007.5159	0723.7	155.4	39.5
134.0	025.0000	0159.6	047.2	310.9	007.4328	0723.7	155.2	39.5
135.0	025.0000	0161.2	047.4	310.6	007.3495	0723.7	155.1	39.5
136.0	025.0000	0162.6	047.6	310.3	007.2662	0731.0	155.0	39.5
137.0	025.0000	0163.9	047.7	310.0	007.1831	0731.0	155.0	39.5
138.0	025.0000	0165.3	047.9	309.7	007.2376	0731.0	154.9	39.5
139.0	025.0000	0166.8	048.1	309.4	007.2939	0737.3	154.9	39.6
140.0	025.0000	0168.5	048.3	309.1	007.3509	0737.3	154.9	39.7
141.0	025.0000	0170.4	048.5	308.7	007.4085	0737.3	154.8	39.7
142.0	025.0000	0172.3	048.7	308.4	007.4665	0742.6	154.9	39.8
143.0	025.0000	0174.1	048.9	308.1	007.5246	0742.6	154.9	39.8
144.0	025.0000	0176.0	049.1	307.8	007.5833	0742.6	155.0	39.8
145.0	025.0000	0178.2	049.3	307.4	007.6424	0747.1	155.0	39.9
146.0	025.0000	0180.3	049.5	307.1	007.7016	0747.1	155.1	39.9
147.0	025.0000	0182.2	049.6	306.8	007.7605	0747.1	155.3	39.9
148.0	025.0000	0184.1	049.8	306.5	007.8191	0750.7	155.4	39.9
149.0	025.0000	0185.9	049.9	306.2	007.8776	0750.7	155.6	39.9
150.0	025.0000	0187.6	050.1	305.8	007.9360	0750.7	155.9	39.9
151.0	025.0000	0189.4	050.2	305.5	007.9943	0750.7	156.1	39.9
152.0	025.0000	0191.2	050.4	305.2	008.0526	0753.2	156.4	39.9
153.0	025.0000	0192.9	050.5	304.9	008.1103	0753.2	156.7	39.8
154.0	025.0000	0194.4	050.6	304.6	008.1671	0753.2	157.0	39.8
155.0	025.0000	0195.8	050.8	304.3	008.2235	0754.2	157.3	39.7
156.0	025.0000	0197.2	050.9	304.0	008.2794	0754.2	157.7	39.7
157.0	025.0000	0198.5	051.0	303.7	008.3347	0754.2	158.1	39.6
158.0	025.0000	0199.7	051.1	303.4	008.3891	0753.9	158.5	39.5
159.0	025.0000	0200.9	051.2	303.2	008.4427	0753.9	159.0	39.4
160.0	025.0000	0202.1	051.3	302.9	008.4959	0753.9	159.4	39.3
161.0	025.0000	0203.4	051.4	302.6	008.5489	0753.9	159.9	39.3
162.0	025.0000	0204.6	051.5	302.3	008.6010	0752.8	160.4	39.1
163.0	025.0000	0205.5	051.6	302.1	008.6511	0752.8	160.9	39.0
164.0	025.0000	0206.0	051.6	301.8	008.6986	0752.8	161.5	38.9
165.0	025.0000	0206.2	051.6	301.6	008.7443	0752.8	162.1	38.8
166.0	025.0000	0206.2	051.6	301.4	008.7882	0750.5	162.8	38.6
167.0	025.0000	0206.0	051.6	301.2	008.8301	0750.5	163.4	38.5
168.0	025.0000	0205.7	051.6	301.0	008.8704	0750.5	164.1	38.3
169.0	025.0000	0205.2	051.5	300.8	008.9090	0750.5	164.8	38.2
170.0	025.0000	0204.5	051.5	300.6	008.9457	0750.5	165.5	38.0
171.0	025.0000	0203.9	051.4	300.4	008.9813	0747.2	166.3	37.8
172.0	025.0000	0203.0	051.4	300.2	009.0150	0747.2	167.0	37.6
173.0	025.0000	0202.2	051.3	300.1	009.0475	0747.2	167.8	37.5
174.0	025.0000	0201.4	051.2	299.9	009.0960	0747.2	168.5	37.3
175.0	025.0000	0200.6	051.2	299.8	009.1526	0747.2	169.3	37.1
176.0	025.0000	0199.8	051.1	299.6	009.2075	0747.2	170.1	37.0
177.0	025.0000	0199.2	051.0	299.5	009.2611	0743.3	170.9	36.8
178.0	025.0000	0198.5	051.0	299.3	009.3122	0743.3	171.6	36.6
179.0	025.0000	0197.8	050.9	299.2	009.3611	0743.3	172.4	36.4
180.0	025.0000	0197.0	050.9	299.1	009.4073	0743.3	173.2	36.3
181.0	025.0000	0196.1	050.8	299.0	009.4497	0743.3	174.1	36.1
182.0	025.0000	0195.1	050.7	298.9	009.4900	0743.3	174.9	35.9
183.0	025.0000	0194.3	050.6	298.8	009.5291	0743.3	175.7	35.8

Exhibit 7

C:\V-Soft\Studies - Probe 3\antenna patterns\KJJJ Laughlin - protects
01-18-2007

Bearing Field % Voltage

Graph is Percent Relat

000	=	1
010	=	1
020	=	1
030	=	1
040	=	1
050	=	1
060	=	1
070	=	1
080	=	1
090	=	1
100	=	1
110	=	1
120	=	1
130	=	1
140	=	1
150	=	1
160	=	1
170	=	1
180	=	1
190	=	1
200	=	1
210	=	1
220	=	1
230	=	1
240	=	1
250	=	1
260	=	1
270	=	1
280	=	1
290	=	.88
300	=	.73
310	=	.65
320	=	.77
330	=	.88
340	=	1
350	=	1

