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August 31, 2011

VIA HAND DELIVERY

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
The Portals II
445 – 12th Street, S.W.
Room TW-A325
Washington, D.C. 20554
Attn: Ann Gallagher, Audio Division, Media Bureau

Re: KLFF(AM), Arroyo Grande, CA
Facility ID: 87729
Construction permit: BMP-20101026ABV
License application: BMML-20110505ACV
MINOR AMENDMENT TO LICENSE APPLICATION

Dear Ms. Dortch:

The purpose of the instant submission is to amend the above-referenced Form 302-AM application for a license to cover completion of modifications to AM station KLFF, 890 KHz, Arroyo Grande, CA (Facility ID 87720) (FCC File No. BMML-20110505ACV, covering modifications authorized under BMP-20101026ABV), on behalf of the licensee, The Collins Family Trust Dated September 7, 2006, Jerry J. Collins and Catherine J. Collins as Trustors and Trustees. The executed amendment and two copies are provided.

The instant amendment is submitted in response to a letter requested dated August 3, 2011 from the processing staff of the Media Bureau's Audio Division. The amendment replaces the Engineering Report originally filed with a revised Engineering Report.

Kindly direct any questions or correspondence regarding this submission or the underlying application to undersigned counsel.

Yours very truly

Lawrence N. Cohn
Ellen Mandell Edmundson
Counsel for The Collins Family Trust Dated September 7, 2006, Jerry J. Collins and Catherine J. Collins as Trustors and Trustees

Enclosures (3)

cc: Ann Gallagher (w/encl.; by hand delivery)
Jerry J. Collins (LPF)

MINOR AMENDMENT

In response to a letter request dated August 3, 2011 from the processing staff of the Media Bureau's Audio Division, the application of The Collins Family Trust Dated September 7, 2006, Jerry J. Collins and Catherine J. Collins as Trustors and Trustees (hereinafter "The Collins Family Trust, Jerry and Catherine Collins, Trustees"), for a license to cover completion of modifications to AM station KLFF, 890 KHz, Arroyo Grande, CA (FCC File No. BMML-20110505ACV, covering modifications authorized under BMP-20101026ABV) (Facility ID No. 87729) is hereby amended to replace the Engineering Report originally filed with the attached revised Engineering Report.

Respectfully submitted,

THE COLLINS FAMILY TRUST DATED SEPTEMBER 7, 2006, JERRY J. COLLINS AND CATHERINE J. COLLINS AS TRUSTORS AND TRUSTEES

By _____
Jerry J. Collins
Co-Trustee

Dated: 8-30-11

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Engineering Report For
The Collins Family Trust, Jerry and Catherine Collins, Trustees
K L F F (A M)
Arroyo Grande, California
April 2011

This engineering report documents the Directional Antenna Performance Verification measurements for KLFF (AM), FCC facility ID number 87729, Arroyo Grande, California. KLFF is authorized to operate on 890 KHz with 5 KW full time using a two tower directional antenna daytime and a three tower pattern at night. This Verification is for the modified facility authorized by BMP-20101026ABV and documents the required "model proof" in order to grant the covering license. All measurements were made personally by the writer in accordance with the FCC rules at 47 CFR 73.151(c).

Eligibility for 73.151(c) Processing

The KLFF antenna system consists of three conventional uniform cross-section insulated steel radiators, series-fed with no top loading. They are 63.5° tall at the KLFF frequency (890 KHz) and are sampled at the base using Delta TCT-3 toroidal current transformers. The ground system is of standard design, consisting of 120 equally-spaced buried bare copper wire radials around each tower 59.5 meters long (63.5°) except for those which intersect, with 4" copper straps terminating the radial intersections and interconnecting the towers.

Background

The KLFF antenna system shares towers with KXTK (facility ID 36026), also licensed to Arroyo Grande. The implementation of the construction permit did not require any additional construction except for the installation of the proper equipment. No changes were made to the towers or the diplexing filters, which have been in use since KLFF was added to this site more than 10 years ago. The filters used to isolate each station are of a standard design and are

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documented later in this report. The antenna current sample elements are Delta Electronics TCT-3 current transformers and are located at the input to the series filters. There are no shunt elements between the filter and the tower except for the static drain which presents a very high impedance (more than 10 times the tower impedance) at 890 KHz. Equal lengths of Andrew 3/8" foam Heliax are used as sample lines. A Gorman-Redlich CMR antenna monitor is used to keep tabs on the array. The monitor was recalibrated and checked for proper operation in accordance with the manufacturer's instructions.

Measurements

The KLFF antenna system was modeled using Westberg Consulting's Phasor Professional 2.1.1 which calculates the tower matrix values as well as the proper operating parameters. The towers and sample lines were measured and documented using an Array Solutions PowerAIM-120 network analyzer serial number 1019 operated in accordance with the manufacturer's instructions. This analyzer has been used in several recent projects and exhibits excellent stability and field performance and since it operates "floating" via battery power and a Bluetooth radio connection to the associated computer no RF ground loop issues arise.

The three KLFF towers are identical in height and are base sampled using torodial current transformers. Each tower was disconnected from its ATU at the sample transformer and was measured at that point. The other towers were individually shorted and/or left floating for each measurement as required, plus additional measurements with the subject tower base insulator shorted to measure the feedline impedance and electrical length from the ATU to the tower as well as at the tower itself with the ATU disconnected. These measurements are documented below and show good agreement with the Westberg theoretical numbers. The unused daytime tower is detuned using an inductor tuned to the appropriate value, located on the KLFF side of the center tower pass-reject filter.

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Amended Sections

This application was amended to address two issues raised in an August 3, 2011 staff letter. First, "[t]he figures for tower spacing and orientation in the moment method model are not the theoretical values, as the rule requires. Please resubmit the model with array dimensions corresponding to the theoretical parameters in the construction permit." The figures used were determined by the tower survey that we believed were required by 73.151(c)(1), which states "the actual spacings and orientations of the array elements" are to be used. It appears that the theoretical figures should be used instead, and they are incorporated into this amendment. No change in the operating parameters results. Second, "[t]he engineering exhibit includes the following statement regarding measured tower impedances: "The corrected measured impedances agree with the model within +/- 2 ohms +/- 4%." Please explain how measured impedances were "corrected." If measured (or assumed) series inductance was included, the statement must provide specific values." The reference to corrected impedances was an inadvertent remnant from an earlier report and the word "corrected" on the original page 3 (page 4 here) has been deleted.

Changed data pages are:

- Page 3 (4 here), Tower model information table (spacing and orientation)
- Page 3 (4 here), Matrix information table (calculated impedances)
- Page 4 (5 here), Detuned tower currents table (all)
- Page 5 (6 here), Matrix calculations table (all)
- Page 6 (7 here), Tower currents table
- Page 7 (8 here), Tower drive information table
- Page 24 (25 here), Signature page, "amended August 30, 2011" added

Note that the calculated operating parameters reported on FCC form 302-AM are unchanged.

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Theoretical Data:

TOWER MODEL INFORMATION

	Tower Height (°)	Spacing (°)	Orientation	Face Width (in.)	Radius (in.)	Velocity Factor
Tower 1 East	63.5000	0.0000	0.0000	12.0000 / 12.0000	5.5426 / 5.5426	0.850000
Tower 2 Center	63.5000	62.6000	246.0000	12.0000 / 12.0000	5.5426 / 5.5426	0.850000
Tower 3 South	63.5000	125.1000	246.0000	12.0000 / 12.0000	5.5426 / 5.5426	0.850000

MATRIX INFORMATION [47 CFR 73.151(c)(1)]

	Calculated Impedance (other towers open)	Measured Impedance (other towers open)
Tower 2 (E)	22.34 - j72.33	23 - j75.7
Tower 1 (C)	22.27 - j72.88	20 - j77.4
Tower 3 (W)	22.34 - j72.34	21 - j75.7

The Westberg Phasor Professional method-of-moments model fully complies with all FCC requirements for tower radius, height, segment length, and calculation references points. No shunt capacitance was used. Towers were adjusted by varying the propagation velocity as shown above. The measured impedances agree with the model within +/- 2 ohms +/- 4%. Westberg's Phasor Professional uses a single wire of the desired effective radius divided into segments or no more than 10° electrical length each to model the tower.

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TOWER CURRENTS from Westberg Phasor Professional

DETUNED TOWER CURRENTS

Tower 2 (E)
0.000000 > 0.000000 - 63.50° above ground
0.085631 > -95.109573 - 54.43° above ground
0.120596 > -98.350869 - 45.36° above ground
0.114940 > -102.353936 - 36.29° above ground
0.068086 > -109.800337 - 27.21° above ground
0.027306 > 105.146538 - 18.14° above ground
0.164548 > 79.932720 - 9.07° above ground
0.398515 > 75.120368 - 0.00° above ground

Tower 1 (C)
0.000000 > 0.000000 - 63.50° above ground
0.085522 > -94.975881 - 54.43° above ground
0.120443 > -98.241444 - 45.36° above ground
0.114825 > -102.289198 - 36.29° above ground
0.068096 > -109.833087 - 27.21° above ground
0.027281 > 105.660876 - 18.14° above ground
0.164350 > 80.025889 - 9.07° above ground
0.398373 > 75.127577 - 0.00° above ground

Tower 3 (W)
0.000000 > 0.000000 - 63.50° above ground
0.061304 > -156.018930 - 54.43° above ground
0.086768 > -155.974106 - 45.36° above ground
0.082783 > -155.922519 - 36.29° above ground
0.048456 > -155.811370 - 27.21° above ground
0.017695 > 23.603163 - 18.14° above ground
0.118515 > 24.041092 - 9.07° above ground
0.286205 > 24.131322 - 0.00° above ground

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MATRIX CALCULATIONS from Westberg Phasor Professional

ZMatrix

22.34 - j72.33	16.93 - j6.81	4.74 - j12.54
16.93 - j6.81	22.27 - j72.88	16.94 - j6.79
4.74 - j12.54	16.94 - j6.79	22.34 - j72.34

YMatrix

0.003433 + j0.013050	0.001643 - j0.002045	-0.001097 - j0.002342
0.001643 - j0.002045	0.002577 + j0.012550	0.001648 - j0.002044
-0.001097 - j0.002342	0.001648 - j0.002044	0.003432 + j0.013048

HMatrix - [I] = [H] X [F]

0.023929 + j0.000782	0.000139 + j0.000603	0.000400 + j0.000195
0.000139 + j0.000603	0.023929 + j0.000782	0.000139 + j0.000604
0.000400 + j0.000195	0.000139 + j0.000604	0.023929 + j0.000782

HMatrix-inverse - [F] = [H]-1 X [I]

41.732722 - j1.340191	-0.312808 - j1.014006	-0.741043 - j0.279731
-0.312577 - j1.013763	41.699762 - j1.335505	-0.311327 - j1.014775
-0.741041 - j0.279725	-0.311553 - j1.015017	41.732658 - j1.340231

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TOWER CURRENTS

Mode 1- Daytime	Mode 2 - Nighttime

Tower 2 (E)	Tower 2 (E)
0.000000 > 0.000000 - 63.50° above ground	0.000000 > 0.000000 - 63.50° above ground
2.412426 > -3.441526 - 54.43° above ground	2.716059 > 126.146067 - 54.43° above ground
4.434045 > -3.025082 - 45.36° above ground	5.014734 > 126.456075 - 45.36° above ground
6.250231 > -2.584296 - 36.29° above ground	7.096853 > 126.734017 - 36.29° above ground
7.839452 > -2.102105 - 27.21° above ground	8.931730 > 126.981564 - 27.21° above ground
9.174485 > -1.558567 - 18.14° above ground	10.482475 > 127.200681 - 18.14° above ground
10.238276 > -0.921454 - 9.07° above ground	11.724745 > 127.397695 - 9.07° above ground
11.144669 > 0.000000 - 0.00° above ground	12.788974 > 127.615304 - 0.00° above ground

Tower 1 (C)	Tower 1 (C)
0.000000 > 0.000000 - 63.50° above ground	0.000000 > 0.000000 - 63.50° above ground
0.104529 > -110.694098 - 54.43° above ground	5.090548 > -1.819568 - 54.43° above ground
0.147201 > -113.963501 - 45.36° above ground	9.326307 > -1.616015 - 45.36° above ground
0.140325 > -118.016606 - 36.29° above ground	13.094394 > -1.395903 - 36.29° above ground
0.083210 > -125.571747 - 27.21° above ground	16.342551 > -1.148895 - 27.21° above ground
0.033363 > 89.954153 - 18.14° above ground	19.005747 > -0.862534 - 18.14° above ground
0.200857 > 64.301608 - 9.07° above ground	21.038131 > -0.516817 - 9.07° above ground
0.486824 > 59.396577 - 0.00° above ground	22.611683 > 0.000000 - 0.00° above ground

Tower 3 (W)	Tower 3 (W)
0.000000 > 0.000000 - 63.50° above ground	0.000000 > 0.000000 - 63.50° above ground
1.938660 > -40.719551 - 54.43° above ground	2.457612 > -136.603286 - 54.43° above ground
3.559025 > -40.011583 - 45.36° above ground	4.478163 > -136.988108 - 45.36° above ground
5.010873 > -39.253595 - 36.29° above ground	6.248174 > -137.360371 - 36.29° above ground
6.277490 > -38.415179 - 27.21° above ground	7.739761 > -137.727074 - 27.21° above ground
7.337715 > -37.460466 - 18.14° above ground	8.918309 > -138.098011 - 18.14° above ground
8.178734 > -36.331585 - 9.07° above ground	9.756865 > -138.493284 - 9.07° above ground
8.891270 > -34.686908 - 0.00° above ground	10.296053 > -139.031011 - 0.00° above ground

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TOWER DRIVE INFORMATION - DAY						
Tower	Field Ratio	Field Phase	Drive Impedance (Ω)	Current (amps)	Current Ratios*	Power (Watts)
2 (E)	1.0000	0.0000°	20.38 - j82.23	11.14 ∠ 0.00°	1.000 ∠ 0.0°	2531.3011
1 (C)	0.0000	0.0000°	-60.45 -j785.59	0.49 ∠ 59.40°	0.044 ∠ 59.4°**	-14.3255
3 (W)	0.8000	-36.0000°	36.47 -j80.93	8.89 ∠ -34.69°	0.798 ∠ -34.7°	2883.0244

TOWER DRIVE INFORMATION - NIGHT						
Tower	Field Ratio	Field Phase	Drive Impedance (Ω)	Current (amps)	Current Ratios*	Power (Watts)
2 (E)	0.5500	128.0000°	4.39 - j84.30	12.79 ∠ 127.62°	0.566 ∠ 127.6°	717.8791
1 (C)	1.0000	0.0000°	11.62 -j65.67	22.61 ∠ -0.00°	1.000 ∠ 0.0°	5940.7645
3 (W)	0.4700	-137.000°	-11.87 -j41.63	10.30 ∠ −139.03	0.455 ∠ −139.0°	-1258.6436

*** = These are the pattern parameters used to tune the array and are on the Form 302.**

**** = this tower is not used daytime**

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Sample System Verification [47 CFR 73.151(c)(2)]

Sample Lines: Andrew 3/8" LDF2-50 Foam Dielectric Heliax

88% velocity factor, 50 +/-1 ohms

Lines were cut to equal electrical length and terminated with proper connectors. An additional short flexible cable connects the 3/8" Heliax to the antenna monitor. These jumpers are accounted for in the data which follows and are also used for the TCT performance verification.

Sample Element Type: Delta Electronics TCT-3 Toroidal Current Transformers

Location: At output of antenna tuning network before diplex filter.

Operating Potential: Grounded

Antenna Monitor: Gorman-Redlich CMR s/n 4201

TCT-3 Serial Numbers & Z at 890 KHz:

Tower 1 (C):	17205	51.700 +j1.034 ohms
Tower 2 (E):	17208	51.605 +j0.977 ohms
Tower 3 (W):	17203	51.922 +j0.990 ohms

(Current Transformers are matched +/- 0.4 ohm resistance and +/- j0.06 ohms reactance)

TCT-3 Phase and Ratio Test (Tower 1 is reference):

Tower 2:	1.001/ +0.0°
Tower 3:	0.999/ -0.1°

(Current Transformers are matched within +/-0.2% ratio and +/-0.1° phase)

The phase and ratio calibration test was done with all transformers removed from the ACUs and configured adjacent to each on the floor of the daytime phasor other reading RF current to tower #3 at 1000 watts. The cables used to connect the TCTs to the monitor are identical in electrical length and characteristic impedance, and are normally used to connect the monitor to the Heliax.

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Sample Line Length Test (see graph data which follows):

Tower 1 Closest Odd ¼ wave Resonant Frequency: 0.463328 MHz (467.23 feet)
172.88° at 890 KHz

Tower 2 Closest Odd ¼ wave Resonant Frequency: 0.462960 MHz (467.60 feet)
173.02° at 890 KHz

Tower 3 Closest Odd ¼ wave Resonant Frequency: 0.461971 MHz (468.60 feet)
173.39° at 890 KHz

Maximum Difference in Electrical Length: +1.37 feet, +0.51° at 890 KHz

Sample Line Impedance Test (see graph data which follows):

Tower 1 (Center) Sample Line Mean Zmag:	54.10 ohms
Tower 2 (East) Sample Line Mean Zmag:	54.18 ohms
Tower 3 (West) Sample Line Mean Zmag:	55.26 ohms

Maximum Variation in Sample Line Impedance: 1.16 ohms

Sample Impedance From Monitor End (with sample element connected, see graph data):

Tower 1 (Center) Sample Impedance:	50.930 +j5.105 ohms
Tower 2 (East) Sample Impedance:	51.116 +j4.944 ohms
Tower 3 (West) Sample Impedance:	51.085 +j4.048 ohms

Maximum Variation in Sample Resistance: 0.186 ohms
Maximum Variation in Sample Reactance: -j1.057 ohms

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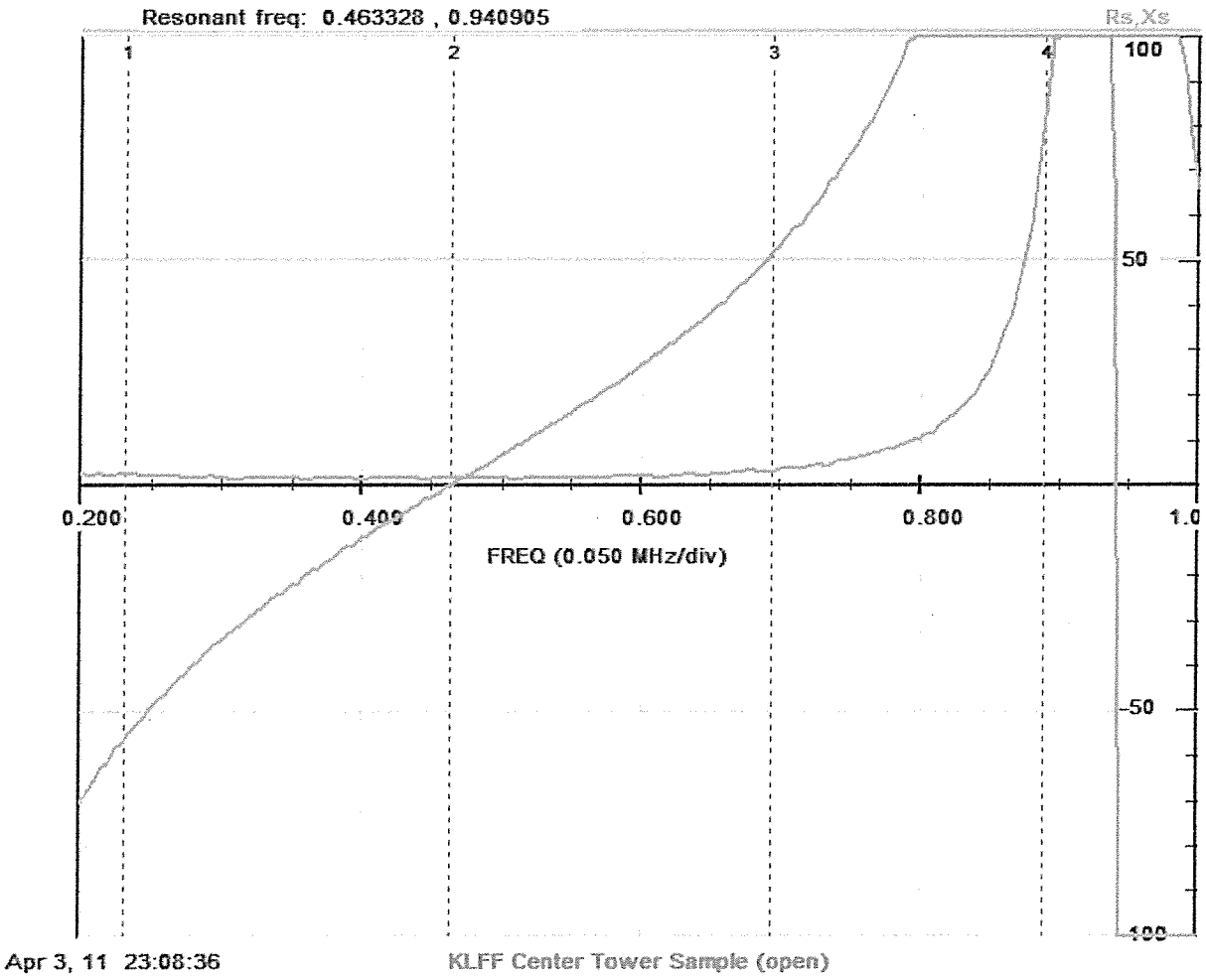
Tower 1 (C) Sample Line Including Monitor Jumper (open circuit)



Marker	Freq	Rs	Xs	Zmag
1	0.231664	2.435	-56.292	56.345
2	0.463328	1.600	0	
3	0.694922	2.912	+51.864	51.946

Mean Tower 1 (East) Sample Line Zmag: 54.10 ohms

Tower 1 Closest Odd ¼ wave Resonant Frequency: 0.463328 MHz (472.53 feet)
172.88° at 890 KHz

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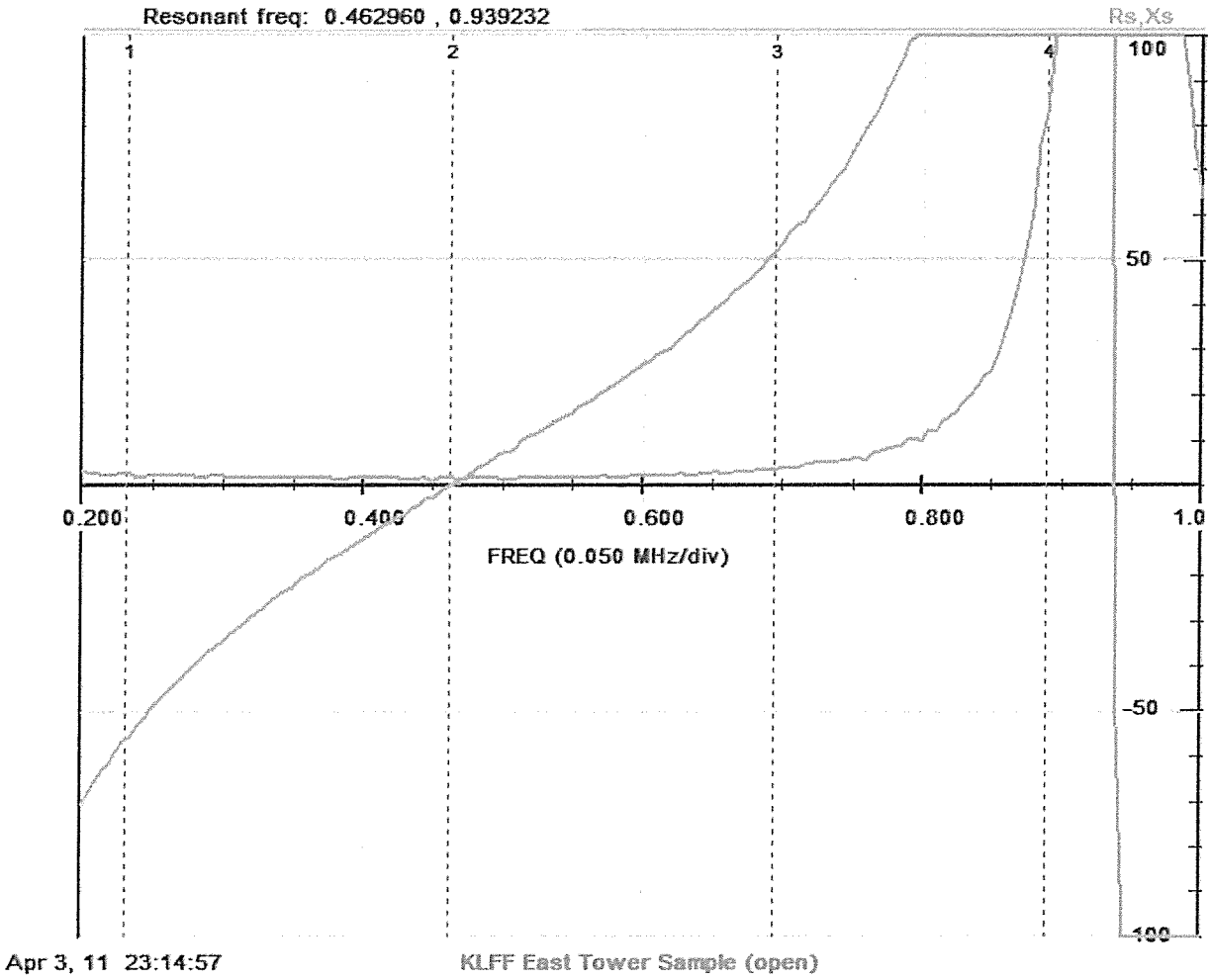
Tower 2 (E) Sample Line Including Monitor Jumper (open circuit)



Marker	Freq	Rs	Xs	Zmag
1	0.231480	2.940	-56.447	56.524
2	0.462960	1.678	-0	
3	0.694440	3.547	+51.848	51.969

Mean Tower 2 (East) Sample Line Zmag: 54.18 ohms

Tower 2 Closest Odd ¼ wave Resonant Frequency: 0.462960 MHz (472.91 feet)
173.92° at 890 KHz

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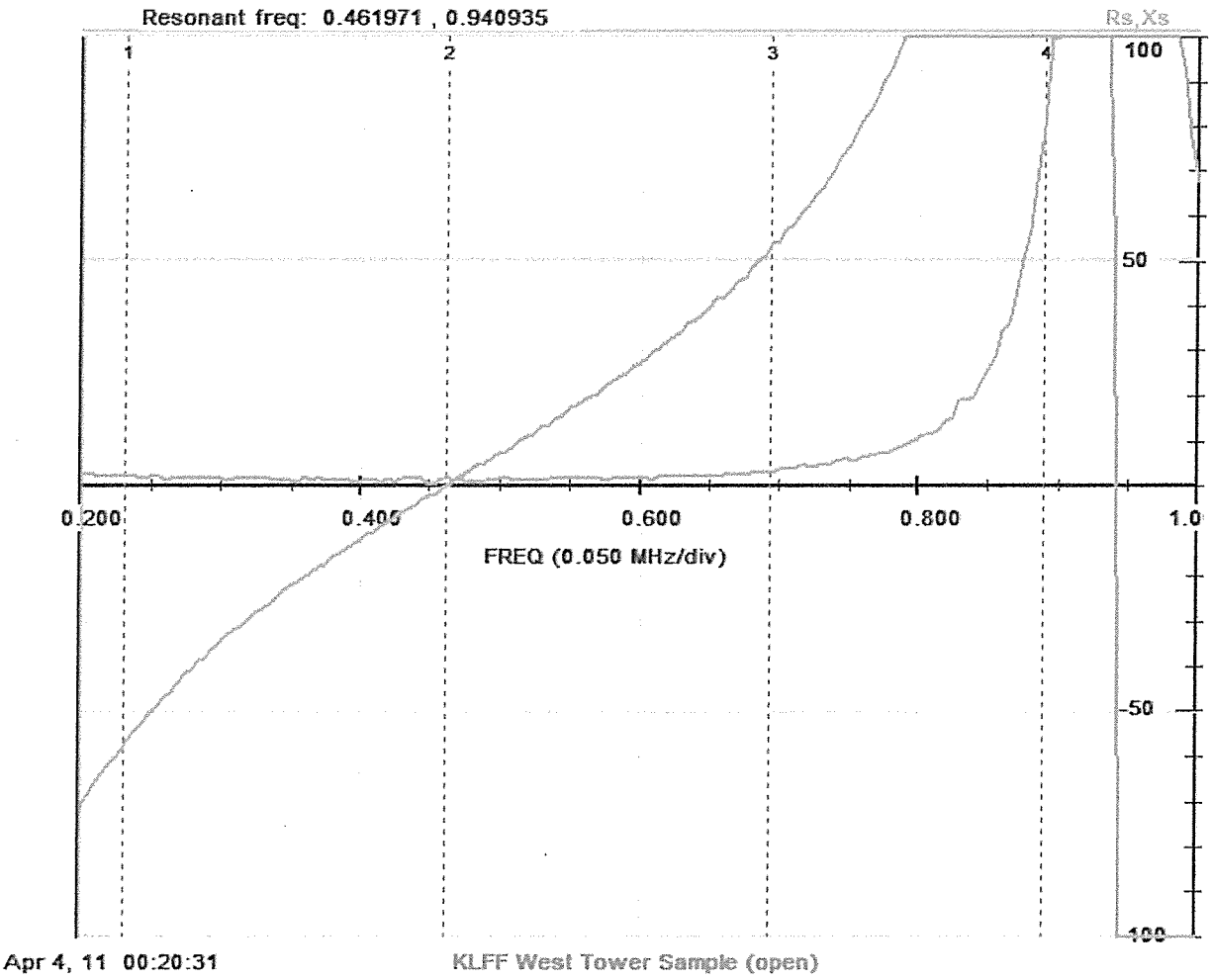
Tower 3 (W) Sample Line Including Monitor Jumper (open circuit)



Marker	Freq	Rs	Xs	Zmag
1	0.230986	2.213	-57.744	57.786
2	0.461971	1.687	-0	
3	0.692956	3.024	+52.765	52.851

Mean Tower 4 (South) Sample Line Zmag: 55.26 ohms

Tower 4 Closest Odd ¼ wave Resonant Frequency: 0.461971 MHz (473.93 feet)
173.39° at 890 KHz

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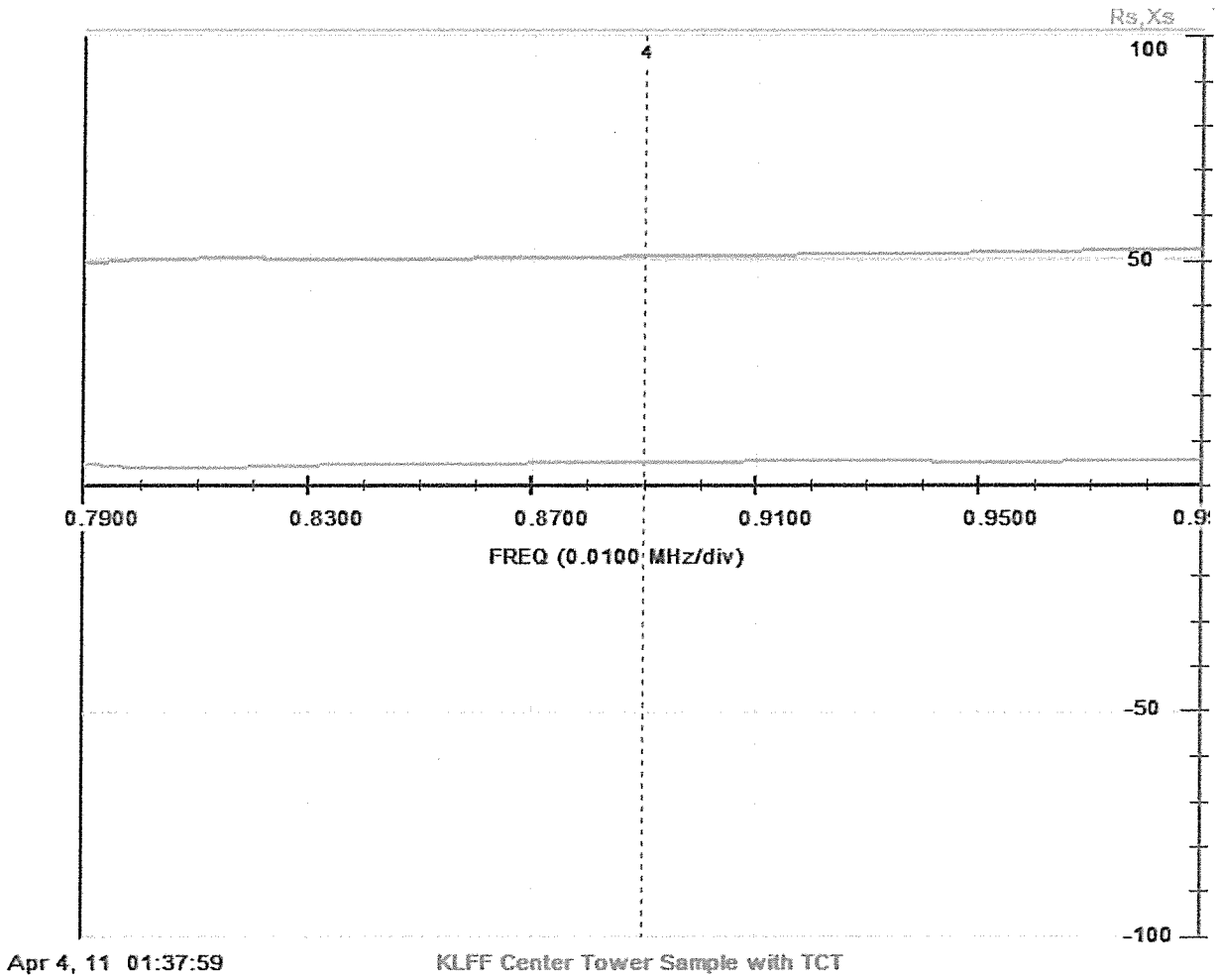
Sample lines from antenna monitor end with TCT-3s connected at towers as normal:

Tower 1 (Center)



Impedance of Tower 1 line at 890 KHz, monitor end with transformer connected at other end:

50.930 +j5.105 ohms (Zmag = 51.185 ohms)

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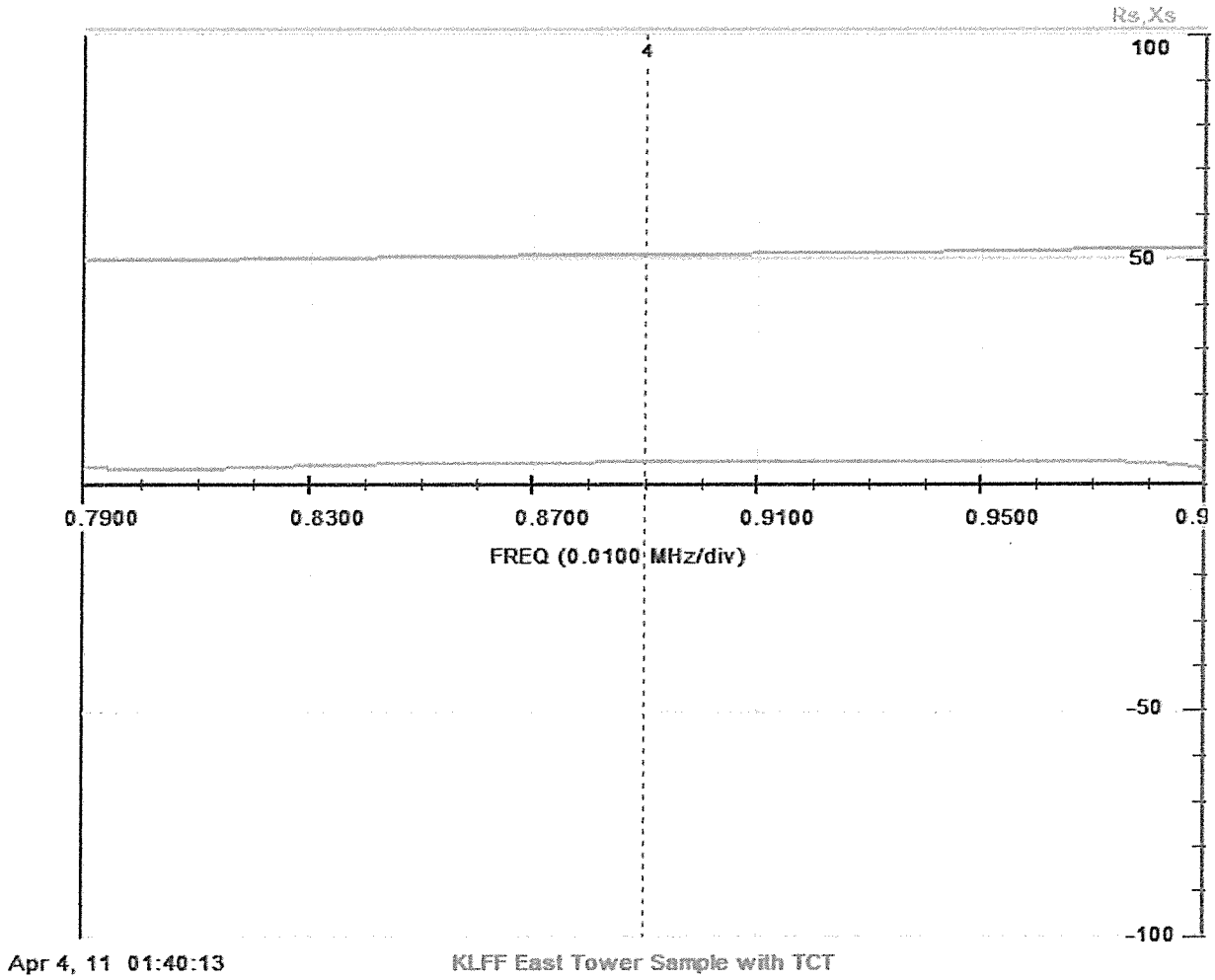
Tower 2 (East)



Impedance of Tower 2 line at 890 KHz, monitor end with transformer connected at other end:

51.116 +j4.944 ohms (Zmag = 51.354 ohms)

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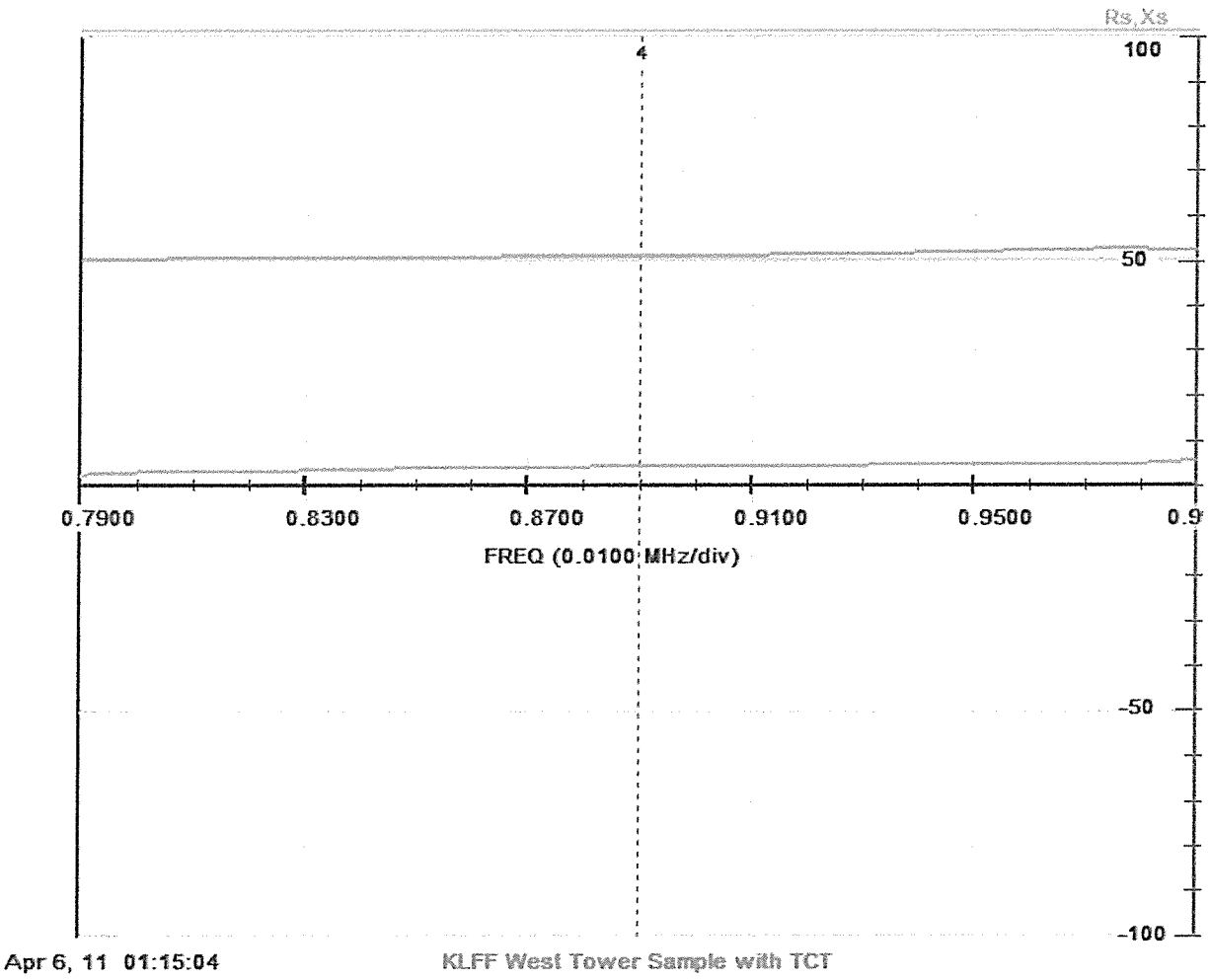
Tower 3 (West)



Impedance of Tower 3 line at 890 KHz, monitor end with transformer connected at other end:

51.085 +j4.048 ohms (Zmag = 51.245 ohms)

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KLFF Daytime Reference Field Strength Measurements

[47 CFR 73.151(c)(3)]

Point	Distance	mv/m	Coordinates (NAD 84)	Description
66° True (Minima, monitor point radial)				
1:	0.935 km	242	35.149115,-120.512021	Field road, at yellow pipe cap
2:	1.17	188	35.149893,-120.509872	Field road, visually on tower line
3:	1.36	82	35.150714,-120.507716	At barn near house "5 MPH", 3899 Alisos Rd.
172° True (Maxima)				
1:	7.75	67	35.076932,-120.509594	Rim Rock Road at White Dove Ct.
2:	7.94	56	35.075108,-120.509376	Rim Rock Road at Hawthorn Lane
3:	8.50	50	35.070194,-120.508641	Old Summit Rd. at gate to right
246° True (Minima, monitor point radial)				
1:	0.846	560	35.142544,-120.530011	Branch Mill Rd. at Stop Ahead sign
2:	2.23	195	35.137217,-120.543649	Huasna Rd. across from transformers
3:	3.26	165	35.133666,-120.554058	1415 Huasna Rd. by green tanks
320° True (Maxima)				
1:	0.489	610	35.152431,-120.528292	2913 Branch Hill Rd. at Sun King
2:	0.995	405	35.158396,-120.534433	2563 Lopez Dr. driveway
3:	1.850	355	35.159801,-120.535476	170 Blue Sky Drive

KLFF Nighttime Reference Field Strength Measurements

[47 CFR 73.151(c)(3)]

Point	Distance	mv/m	Coordinates (NAD 84)	Description
66° True (Minima, monitor point radial)				
1:	0.935 km	64	35.149115,-120.512021	Field road, at yellow pipe cap
2:	1.17	50	35.149893,-120.509872	Field road, visually on tower line
3:	1.36	21.5	35.150714,-120.507716	At barn near house "5 MPH", 3899 Alisos Rd.
246° True (Maxima- main lobe)				
1:	0.846	1100	35.142544,-120.530011	Branch Mill Rd. at Stop Ahead sign
2:	2.23	380	35.137217,-120.543649	Huasna Rd. across from transformers
3:	3.26	320	35.133666,-120.554058	1415 Huasna Rd. by green tanks

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Tower Survey [47 CFR 73.151(c)(1)(ix)]

The four KLFF towers were surveyed on April 12, 2011 by Michael B. Stanton, a licensed Professional Land Surveyor in the state of California (license number 5702), and were found to be as follows:

Tower 3 (W) to 1 (C): 192.19 (62.58°) at 66.69° True (theo. = 62.6° at 66.0° T*)

Tower 1 (C) to 2 (E): 191.63 feet (62.40°) at 66.66° True (theo. = 62.6° at 66.0° T*)

Tower 3 (W) to 2 (E): 383.82 feet (124.98°) at 66.67° True (theo. = 125.10° at 66.0° T*)

* = this is the reciprocal of the construction permit bearing of 246° T as the surveyor measured the distances and bearings from southwest to northeast instead of northeast to southwest as used in the array description.

A copy of the survey report is attached. This corresponds to a maximum relative spacing error of 0.2° and absolute bearing error of less than 0.7°, well within the allowed tolerances of +/- 1.5°. The actual tower spacings and orientation were used in the model.

MBS LAND SURVEYS
Michael B Stanton, PLS 5702
3563 Sueldo St., Unit Q
San Luis Obispo, CA 93401

Tel: 805.594.1960
Fax: 805.594.1966

Geodetic Coordinate Certification
KXTK and KLFF Towers
Huasna Road, Arroyo Grande

West Tower (1)

	DEGREES	MINUTES	SECONDS	DATUM
LATITUDE	35°	08′	42.88″	NAD83-2007
LONGITUDE	-120°	31′	19.85″	NAD83-2007

Middle Tower (2)

	DEGREES	MINUTES	SECONDS	DATUM
LATITUDE	35°	08′	43.68″	NAD83-2007
LONGITUDE	-120°	31′	17.74″	NAD83-2007

East Tower (3)

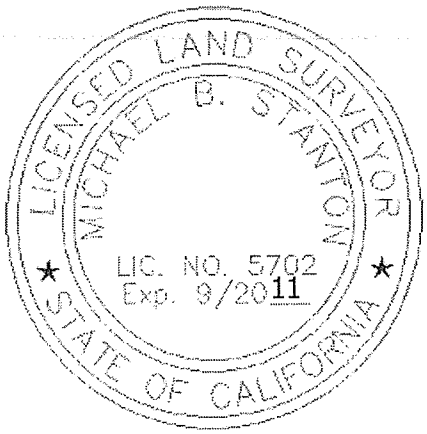
	DEGREES	MINUTES	SECONDS	DATUM
LATITUDE	35°	08′	44.47″	NAD83-2007
LONGITUDE	120°	31′	15.65″	NAD83-2007

CA State Plane Grid , Zone V, Bearings between towers:

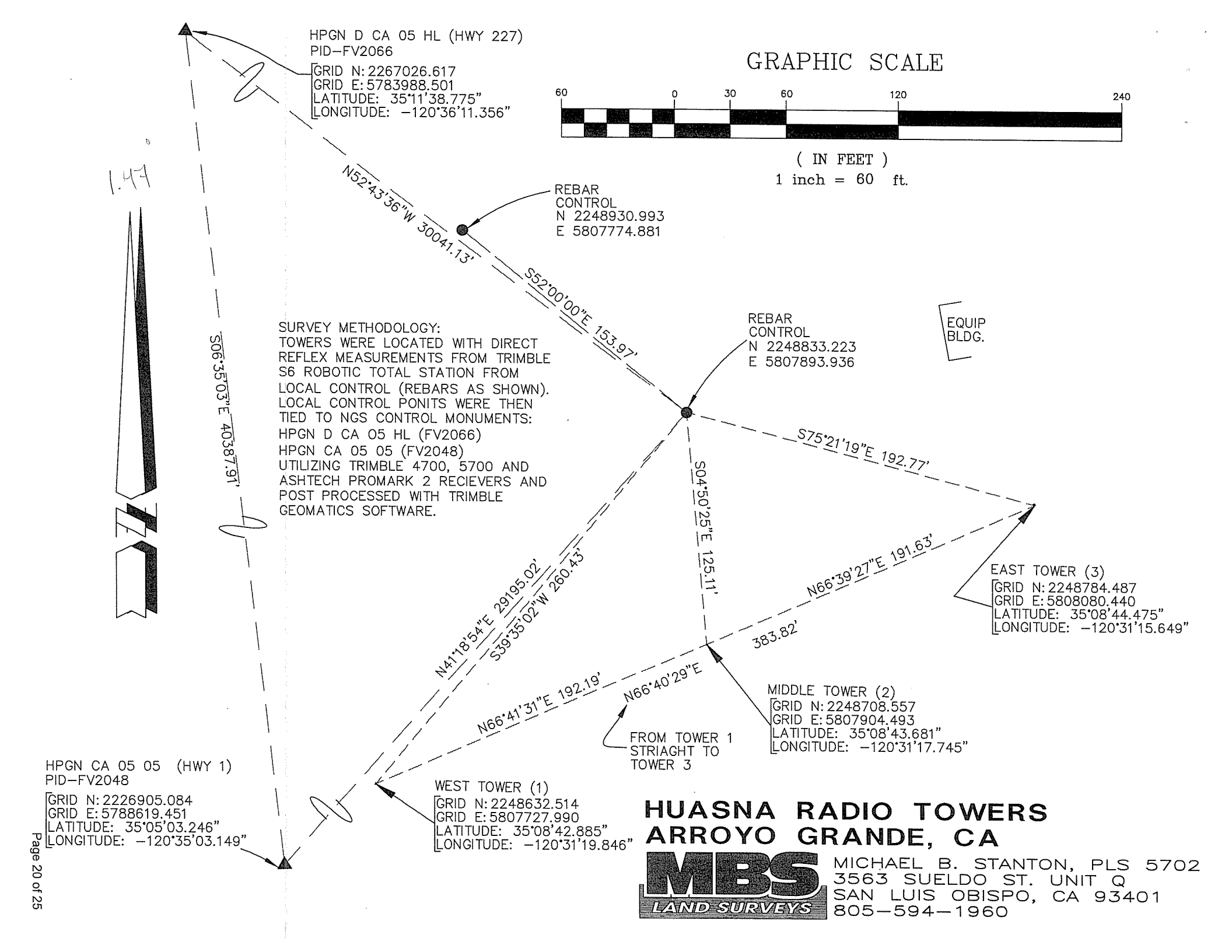
West Tower to Middle Tower: North 66°41′31″East, Distance 192.19′ 246.69°
Middle Tower to East Tower: North 66°39′27″East, Distance 191.63′
West Tower to East Tower: North 66°40′29″East, Distance 383.82′ 246.67°

Date: April 12, 2011
Job No. 07-146
Re: Huasna Radio Towers for KXTK and KLFF
Location: Huasna Road, Arroyo Grande, CA 93420

I hereby certify that the Latitudes and Longitudes shown herein are accurate to within plus or minus 3 feet horizontally. Relative tolerance between towers is +/- 0.5 feet. The horizontal datum (coordinates) are in terms of the North American Datum of 1983 (NAD83) and are expressed as degrees, minutes, and seconds of Latitude and Longitude to the nearest hundredth of a second (about 1 foot). Elevations of the towers were not determined.



Licensed Professional Land Surveyor Date
State of California #5702
Michael B. Stanton



HUASNA RADIO TOWERS
ARROYO GRANDE, CA

MBS LAND SURVEYS
MICHAEL B. STANTON, PLS 5702
3563 SUELDO ST. UNIT Q
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805–594–1960

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Construction Permit Conditions:

1 The permittee must submit a proof of performance as set forth in either Section 73.151(a) or 73.151(c) of the rules before program tests are authorized.

A proof of performance based on field strength measurements, per Section 73.151(a), shall include a complete nondirectional proof of performance, in addition to a complete proof on the (day) and (night) directional antenna system. The nondirectional and directional field strength measurements must be made under similar environmental conditions. The proof(s) of performance submitted to the Commission must contain all of the data specified in Section 73.186 of the rules. Permittees who elect to submit a moment method proof of performance, as set forth in Section 73.151(c), must use series-fed radiators. In addition, the sampling system must be constructed as described in Section 73.151(c) (2) (i).

The KLFF antenna system was verified using the "model proof" rules at 47 CFR 73.151(c). The towers are series-fed and the sample system meets the requirements of 47 CFR 73.151(c)(2)(1).

2 Permittee shall install a type accepted transmitter, or submit application (FCC Form 301) along with data prescribed in Section 73.1660(b) should non-type accepted transmitter be proposed.

KLFF continues to use its Harris Gates Five which the transmitter manufacturer states is type accepted for both the power level and intended service.

3 A license application (FCC Form 302) to cover this construction permit must be filed with the Commission pursuant to Section 73.3536 of the Rules before the permit expires.

This is part of the required application for license to cover. It is being filed prior to the expiration of the underlying construction permit, which is May 9, 2011

4 Before program tests are authorized, sufficient data shall be submitted to show that adequate filters, traps and other equipment has been installed and adjusted to prevent interaction, intermodulation and/or generation of spurious radiation products which may be caused by common usage of the same antenna system by Stations KLFF, Facility ID: 87729, KXTK, Facility ID: 36026, and KRGA, Arroyo Grande, CA, Facility ID: 160226, and there shall be filed with the license application copies of a firm agreement entered into by the three stations involved clearly fixing the responsibility of each with regard to the installation and maintenance of such equipment. In addition, field observations shall be made to determine whether spurious emissions exist and any objectionable problems resulting therefrom shall be eliminated. Following construction, and prior to authorization of program test under this grant, Stations KLFF, Facility ID: 87729, KXTK, Facility ID: 36026, and KRGA, Arroyo Grande, CA, Facility ID: 160226, shall each measure antenna or common point resistance and submit FCC Form 302 as application notifying the return to direct measurement of power.

A representative sample of the traps added at tower 2, which is common to both stations, is shown below. A formal agreement fixing responsibility for continued maintenance of the system is

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incorporated in the lease and is attached as a Form 302 exhibit elsewhere for reference. The two stations continue to use, unmodified, the same filtering equipment which was installed in 2001.

KRGA has not begun construction, has not pulled local building permits for its fourth tower and given the imminent expiration of the 18 month extension of the initial construction period on 06/07/2011 will almost certainly not be constructed, making compliance with this part of condition 4 impossible.

Regarding co-located KXTK, there was no construction necessary to implement the KLFF changes. It involved reconfiguring the existing KLFF pattern switching and installation of the day phasor at the transmitter and integrating that with the existing nighttime phasor and ATUs. No changes which could affect KXTK were made and in fact KXTK continued operating as usual during the KLFF modification. All components past the output jack of the KLFF ATUs (at the input to the KLFF side of the diplexing filters) including the filters, tower feeds and towers are untouched, and no additional equipment was installed at or near the towers. The KXTK antenna parameters were monitored closely every day and no changes were evident. Therefore, we believe that the FCC Form 302 Direct Power Measurement application with respect to KXTK is unnecessary and can that part of Condition 4 be deleted as unnecessary.

Finally, the spurious and harmonic emissions measurements from 540 KHz through 5 MHz were made April 8, 2011 at the entrance to the Branch Elementary School parking lot across from the entrance to the transmitter site, which is approximately 700 meters feet from the center of the array, with each station operating at full daytime power. These measurements, taken with the writer's Potomac Instruments FIM-41 field intensity meter show that there is excellent isolation between the transmitters:

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Spurious Emissions Measurements:

Carrier levels:

KLFF (5 KW, 890 KHz):	735 mv/m	(117.33 dBu)
KXTK (10 KW, 1260 KHz):	1120 mv/m	(120.98 dBu)

Measured signals:

740 KHz	((2 x 1260) - (2 x 890)):	0.063 mv/m	(35.99 dBu)
	(-81.34 dB from KLFF, -84.99 dB from KXTK)		
1630 KHz	(2 x 1260) - 890:	0.053 mv/m	(34.55 dBu)
	(-82.78 dB from KLFF, -86.43 dB from KXTK)		
2150 KHz	1260 + 890:	0.058 mv/m	(35.27 dBu)
	(-82.06 dB from KLFF, -85.71 dB from KXTK)		

No other signals traceable to the combined site were present.

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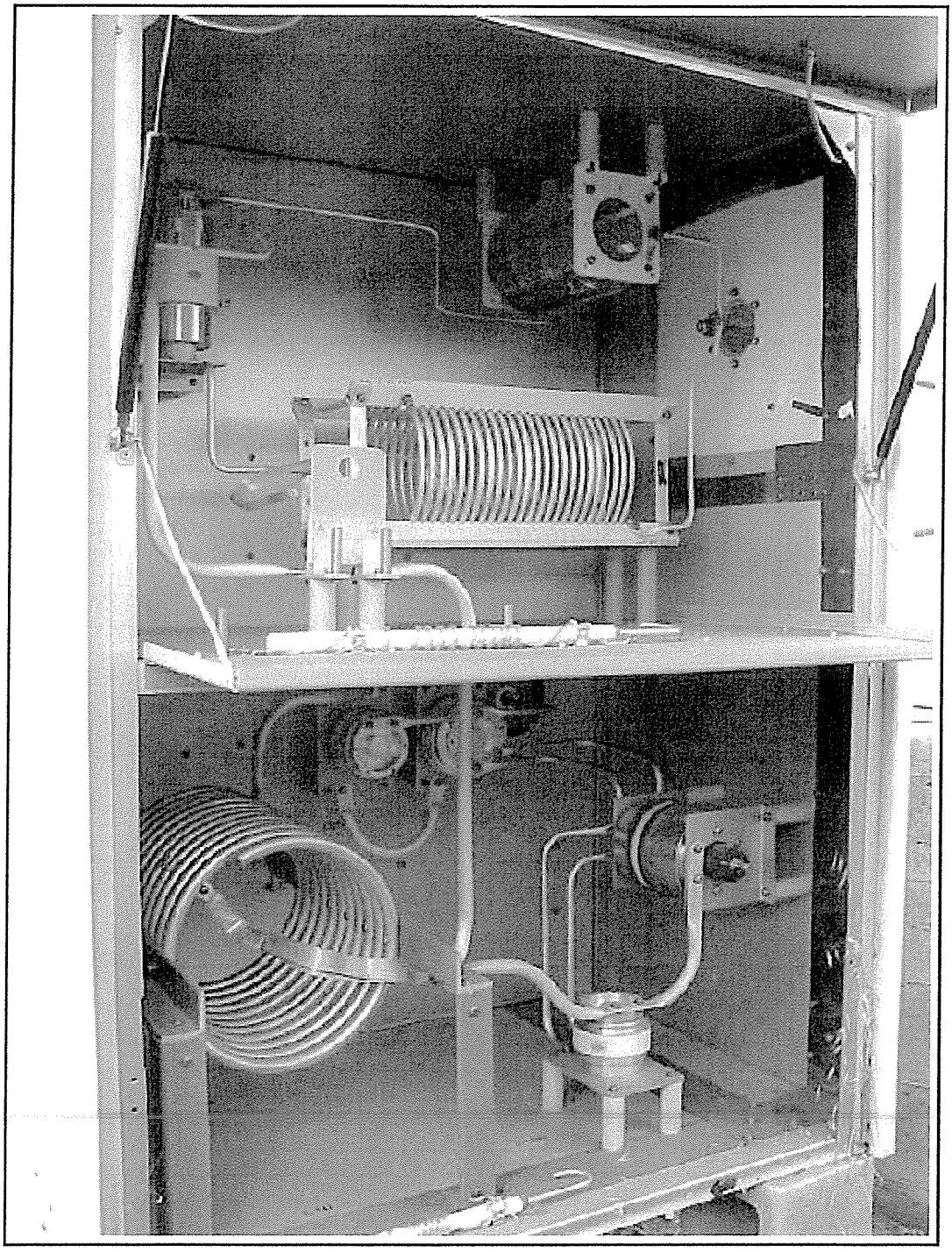
Photo diplexing filters at tower 1 (typical at each tower):

1260 pass, 890 reject (upper), 890 pass, 1260 reject (lower)



The KXTK tower feed loops through the upper compartment, from the right. The J plug in the center is where KLFF joins the KXTK feed to the tower which exits to the left. This is the same equipment which has been in use at KXTK-KLFF for over a decade. No changes were made.

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Preparer's Certification

This engineering report was prepared by me from data personally collected on site using equipment owned and maintained by me for this purpose. It is true and correct to the best of my knowledge and belief. The KLFF antenna system is properly constructed and adjusted and program test authority is hereby requested.

Mark A. Mueller

April 26, 2011
Amended August 30, 2011

SECTION III - LICENSE APPLICATION ENGINEERING DATA

Name of Applicant: The Collins Family Trust, Jerry & Catherine Collins, Trustees

PURPOSE OF AUTHORIZATION APPLIED FOR: (check one)

[X] Station License [ ] Direct Measurement of Power

This is a "Method of Moments" antenna proof.

1. Facilities authorized in construction permit

Call Sign	File No. of Construction Permit (if applicable)	Frequency (kHz)	Hours of Operation	Power in kilowatts	
				Night	Day
KLFF	BMP-20101026ABV	890	Unlimited	5	5

2. Station location

State	City or Town
California	Arroyo Grande

3. Transmitter location

State	County	City or Town	Street address
CA	San Luis Obispo	Arroyo Grande	School Road between Huasna and Branch Mill

4. Main studio location

State	County	City or Town	Street address (or other identification)
CA	San Luis Obispo	San Luis Obispo	560 Higuera St.

5. Remote control point location (specify only if authorized directional antenna)

State	County	City or Town	Street address (or other identification)
CA	San Luis Obispo	San Luis Obispo	560 Higuera St.

6. Has type-approved stereo generating equipment been installed? [ ] Yes [X] No

7. Does the sampling system meet the requirements of 47 C.F.R. Section 73.68? [X] Yes [ ] No [ ] Not Applicable

Attach as an Exhibit a detailed description of the sampling system as installed. Exhibit No. EE

8. Operating constants:

RF common point or antenna current (in amperes) without modulation for night system	RF common point or antenna current (in amperes) without modulation for day system
10.39	10.39

Measured antenna or common point resistance (in ohms) at operating frequency		Measured antenna or common point reactance (in ohms) at operating frequency	
Night	Day	Night	Day
50	50	0	0

Antenna indications for directional operation

Towers	Antenna monitor Phase reading(s) in degrees		Antenna monitor sample current ratio(s)		Antenna base currents	
	Night	Day	Night	Day	Night	Day
1 (C)	0°	dna	1.000	dna	dna	dna
2 (E)	+127.6°	0°	0.566	1.000	dna	dna
3 (W)	-139.0°	-34.7°	0.455	0.798	dna	dna

Manufacturer and type of antenna monitor: Gorman-Redlich "CMR" s/n 4201

9. Description of antenna system ((f directional antenna is used, the information requested below should be given for each element of the array. Use separate sheets if necessary.)

Type Radiator	Overall height in meters of radiator above base insulator, or above base, if grounded.	Overall height in meters above ground (without obstruction lighting)	Overall height in meters above ground (include obstruction lighting)	If antenna is either top loaded or sectionalized, describe fully in an Exhibit.
Vertical uniform cross section triangular steel insulated towers	59.4	60.9	60.9	Exhibit No. n/a

Excitation [X] Series [ ] Shunt

Geographic coordinates to nearest second. For directional antenna give coordinates of center of array. For single vertical radiator give tower location.

North Latitude	West Longitude
35 ° 08 ' 44 "	120 ° 31 ' 15 "

If not fully described above, attach as an Exhibit further details and dimensions including any other antenna mounted on tower and associated isolation circuits. Exhibit No. EE

Also, if necessary for a complete description, attach as an Exhibit a sketch of the details and dimensions of ground system. Exhibit No. dna

10. In what respect, if any, does the apparatus constructed differ from that described in the application for construction permit or in the permit?

Antenna numbering changed to conform with earlier license. No other differences.

11. Give reasons for the change in antenna or common point resistance.

New daytime and nighttime patterns.

I certify that I represent the applicant in the capacity indicated below and that I have examined the foregoing statement of technical information and that it is true to the best of my knowledge and belief.

Name (Please Print or Type)	Signature (check appropriate box below)
Mark A. Mueller	Mark A. Mueller
Address (include ZIP Code) Mueller Broadcast Design 613 S. La Grange Rd. La Grange, IL 60525 mark@muellerbroadcastdesign.com	Date April 27, 2011 Amended August 30, 2011
	Telephone No. (Include Area Code) (708) 352-2166

[ ] Technical Director

[ ] Registered Professional Engineer

[ ] Chief Operator

[X] Technical Consultant

[ ] Other (specify)