

TECHNICAL EXHIBIT  
APPLICATION FOR CONSTRUCTION PERMIT  
LOW POWER TV STATION KAGP-LP  
FCC FILE NO. BLTVL-19990603JG  
FACILITY ID 41123  
ARROYO GRANDE, CALIFORNIA  
CH 8 3 KW (MAX-DA)

Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of an application for construction permit for LPTV station KAGP-LP on channel 8 at Arroyo Grande, California (Facility ID: 41123; File No. BLTVL-19990603JG). Specifically, this application proposes to change the location of the transmitting site, increase the effective radiated power (ERP) from 0.133 kW to 3 kW, increase the antenna radiation center height above mean sea level (RCAMSL) from 245 meters to 1007 meters, and change the directional antenna system. No other changes are proposed including no change of channel (8), frequency offset designation (z), or community of license (Arroyo Grande). As detailed below, this application is considered a "minor change" in facilities pursuant to Section 73.3572. It is believed that the instant application conforms to all other applicable rules and regulations of the Federal Communications Commission.

Proposed Facilities

It is proposed to operate KAGP-LP on channel 8 (180-186 MHz) with a "zero" carrier frequency offset using a Scala HDCA-5 directional antenna with a main lobe orientation of 270 degrees true. The maximum ERP will be 3 kW. The antenna radiation center height above mean sea level will be 1007 meters. The antenna will be mounted on an existing tower. Based on the FCC's TOWAIR program, the existing tower does not require tower registration.

Minor Change Application

Figure 1 depicts the licensed and herein proposed 68 dBu contours for LPTV station KAGP-LP. As indicated, the proposed 68 dBu contour encompasses a portion of the licensed 68 dBu contour. Therefore, the proposed modification is considered a "minor" change in facilities pursuant to Section 73.3572.

Mexican Coordination

The proposed KUVB-LP transmitter site is located 387.1 kilometers from the closest point of the US-Mexican border. Therefore, if necessary, coordination of the proposed facilities with Mexico is respectfully requested.

Response to Paragraph 13(a) - TV Broadcast Analog Protection

A study has been conducted using the provisions of Section 74.705 which indicates that the proposed KAGP-LP operation will not create prohibited interference to other existing, authorized or proposed NTSC full-power stations with the exception of the licensed operation of KSBW on co-channel 8 at Salinas, CA (BLCT-20020424AAN). Therefore, waiver of Section 74.705 is requested with respect to KSBW. Justification for the waiver request is provided below.

Based on consideration of terrain shielding and the provisions of the OET-69 Bulletin as permitted by FCC rules [Section 74.705(e)], it is believed that KSBW's operation complies with the FCC's interference criteria. Specifically, calculations have been made using the procedures outlined in the FCC's OET-69 Bulletin and a 2 square kilometer grid.<sup>1</sup> The interference calculations are tabulated on Figure 2 and, as indicated, the proposed KAGP-LP operation complies with the FCC's 0.5% "rounding allowance" for such calculations (see paragraph 78 of MM Docket No. 00-10).

Response to Paragraph 13(b) - DTV Station Protection

Calculations based on OET Bulletin No. 69 indicate that the proposed KAGP-LP operation on channel 8 complies with the FCC's 0.5% interference threshold criteria to all allotted, proposed or actual DTV operating facilities on channels 7, 8, and 9. Figure 2 provides the output of study based on OET-69

---

<sup>1</sup> The du Treil, Lundin & Rackley, Inc. DTV interference analysis program is based on the program and procedures outlined by the FCC in the Sixth Report and Order; subsequent Memorandum Opinion and Order; and FCC OET Bulletin No. 69. A nominal grid size resolution of 2 km was employed. An Alpha based processor computer system was employed. The results have been found to be in very close agreement with the results of the FCC implementation of OET Bulletin No. 69.

Bulletin which demonstrates that the proposed KAGP-LP operation complies with the FCC's DTV interference criteria.

Response to Paragraph 13(c) - LPTV/TV Translator/Class A TV Protection

A study has been conducted which indicates that the KAGP-LP proposal will not create prohibited interference to other existing, authorized or proposed LPTV, TV Translator and Class A stations with the exception of the following:

*K07TA, Ch. 7, Santa Maria, CA (BPTVA-20031203ABM)*  
*K07TA, Ch. 7, Santa Maria, CA (BLTTV-19850701IB)*  
*K08MM, Ch. 8, Bakersfield, CA (BLTVA-20011128ACU)*  
*K08MM, Ch. 8, Bakersfield, CA (BPTVL-19980601SD)*  
*K08MM, Ch. 8, Bakersfield, CA (BPTVL-20031126AMB)*  
*K08FX, Ch. 8, Lake Isabella, CA (BLTTV-3865)*

However, based on the provisions of the OET-69 Bulletin as permitted by FCC rules [Section 74.707(e)] it is believed that the proposed KAGP-LP operation complies with the FCC's interference criteria towards K07TA, K08MM and K08FX. The output of the OET-69 interference analysis computer program is attached as Figure 2 and, as indicated, the proposed KAGP-LP operation complies with the FCC's 0.5% "rounding allowance" for such calculations (see paragraph 78 of MM Docket No. 00-10).

Response to Paragraph 14 - Environmental Protection Act

The proposed KAGP-LP LPTV facilities were evaluated in terms of potential radiofrequency radiation exposure at ground level in accordance with OST Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation." The calculated power density at the base of the tower was calculated using the appropriate equation on Page 13 of the Bulletin. Using a greater than expected vertical relative field value of 0.3 towards the tower base (see vertical plane relative field pattern attached as Figure 3), a maximum visual effective radiated power of 3 kilowatts and 10 percent aural power, the calculated power density at 2 meters above ground level at the base of the tower is 0.0200 milliwatt per square centimeter (mW/cm<sup>2</sup>), or 10 percent of the Commission's recommended limit applicable to general population/uncontrolled exposure areas. However, as this is a multi-user site,

measurements will be made to substantiate compliance with the RF emission rules.

Access to the transmitting site will be restricted and appropriately marked with warning signs. Furthermore, as this is a multi-user site, an agreement will be in effect in the event that workers or other authorized personnel enter the restricted area or climb the tower to ensure that appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down.

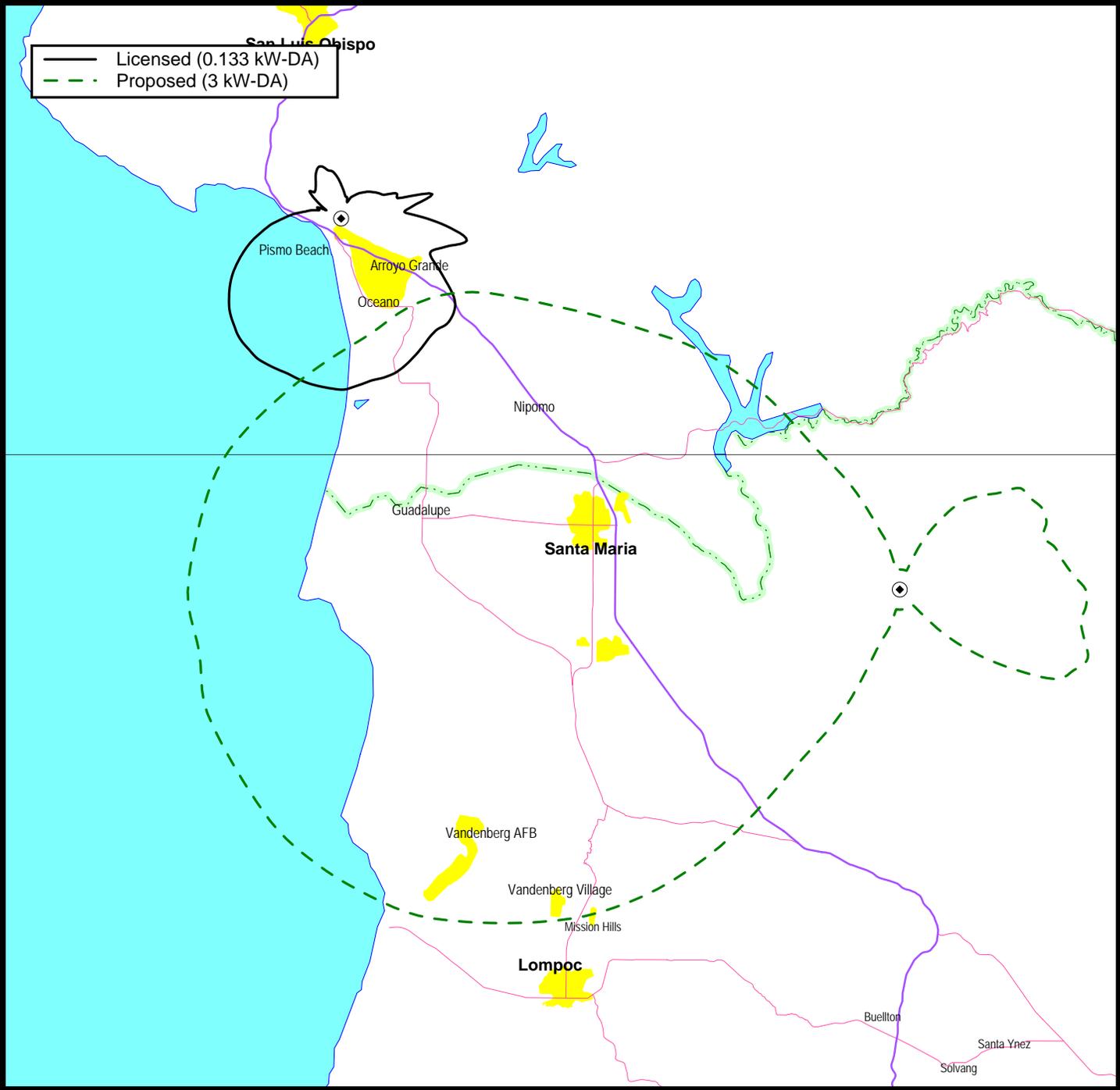
Finally, it is noted that this technical exhibit only addresses the potential for radiofrequency electromagnetic field exposure.

W. Jeffrey Reynolds

du Treil, Lundin & Rackley, Inc.  
201 Fletcher Avenue  
Sarasota, Florida 34237  
(941)329-6000  
JEFF@DLR.COM

June 1, 2004

Figure 1



**PREDICTED 68 DBU COVERAGE CONTOURS**

LPTV STATION KAGP-LP  
ARROYO GRANDE, CALIFORNIA  
CH 8 3 KW (MAX-DA)

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

OET-69 INTERFERENCE CAUSED STUDY

CELL SIZE : 2.00  
Using offset in determining thresholds

\*\*\*\*\*  
K07TA2 34-54-36 120-11-05 7(+) 3.000 kw 988 m DA 50.0 % 68.0 dBu  
SANTA MARIA CA  
APP BPTVA20031203ABM  
1.00 0.94 0.83 0.76 0.79 0.87 0.94 0.96 0.93 0.85 0.74 0.60  
0.47 0.36 0.27 0.24 0.26 0.26 0.27 0.26 0.26 0.24 0.27 0.36  
0.47 0.60 0.74 0.85 0.93 0.96 0.94 0.87 0.79 0.76 0.83 0.94  
Ref Az: 270.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	4493.704	191507
not affected by terrain losses	3618.255	145173

\*\*\*\*\*  
KAGP-L 34-54-37 120-11-08 8(Z) 3.000 kw 1007 m DA 10.0 % 68.0  
ARROYO GRANDE CA  
PROPOSED  
1.00 0.94 0.81 0.64 0.46 0.27 0.10 0.04 0.01 0.01 0.01 0.01  
0.05 0.10 0.12 0.12 0.12 0.13 0.14 0.16 0.16 0.12 0.06 0.01  
0.01 0.01 0.01 0.01 0.01 0.03 0.12 0.29 0.46 0.64 0.81 0.94  
Ref Az: 270.0

Using DEFAULT vertical antenna pattern

D/U Baseline: -13.00

	Area	Pop
<b>Interference</b>	<b>0</b>	<b>0</b>

\*\*\*\*\*  
K07TA 34-50-06 120-22-56 7(+) 0.130 kw 418 m DA 50.0 % 68.0 dBu  
SANTA MARIA CA  
LIC BLTTV19850701IB  
1.00 0.94 0.81 0.59 0.32 0.01 0.01 0.01 0.01 0.01 0.01 0.01  
0.01 0.01 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.02 0.01 0.01  
0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.05 0.38 0.61 0.80 0.94  
Ref Az: 10.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	100.3782	4357
not affected by terrain losses	88.33279	4357

\*\*\*\*\*  
KAGP-L 34-54-37 120-11-08 8(Z) 3.000 kw 1007 m DA 10.0 % 68.0  
ARROYO GRANDE CA  
PROPOSED  
1.00 0.94 0.81 0.64 0.46 0.27 0.10 0.04 0.01 0.01 0.01 0.01  
0.05 0.10 0.12 0.12 0.12 0.13 0.14 0.16 0.16 0.12 0.06 0.01  
0.01 0.01 0.01 0.01 0.01 0.03 0.12 0.29 0.46 0.64 0.81 0.94  
Ref Az: 270.0

Using DEFAULT vertical antenna pattern

D/U Baseline: -13.00

Interference	Area 0	Pop 0
*****		
<b>K08MM3 35-21-41 119-03-34</b>	<b>8(+)</b>	<b>1.782 kw 196</b>
<b>BAKERSFIELD CA</b>		<b>m DA 50.0 % 68.0 dBu</b>
<b>APP BPTVA20031126AMB</b>		
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00		
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00		
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00		
Ref Az: 0.0		

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	555.0126	284500
not affected by terrain losses	555.0126	284500

\*\*\*\*\*

<b>KAGP-L 34-54-37 120-11-08</b>	<b>8(Z)</b>	<b>3.000 kw 1007</b>
<b>ARROYO GRANDE CA</b>		<b>m DA 10.0 % 68.0</b>
<b>PROPOSED</b>		
1.00 0.94 0.81 0.64 0.46 0.27 0.10 0.04 0.01 0.01 0.01 0.01		
0.05 0.10 0.12 0.12 0.12 0.13 0.14 0.16 0.16 0.12 0.06 0.01		
0.01 0.01 0.01 0.01 0.01 0.03 0.12 0.29 0.46 0.64 0.81 0.94		
Ref Az: 270.0		

Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00

Interference	Area 0	Pop 0
*****		
<b>K08MM2 35-22-08 119-00-14</b>	<b>8(+)</b>	<b>0.065 kw 186</b>
<b>BAKERSFIELD CA</b>		<b>m DA 50.0 % 68.0 dBu</b>
<b>CP BPTVL19980601SD</b>		
1.00 0.97 0.95 0.93 0.92 0.94 0.98 1.00 0.98 0.95 0.88 0.77		
0.63 0.47 0.35 0.23 0.22 0.22 0.23 0.22 0.22 0.23 0.35 0.47		
0.63 0.77 0.88 0.95 0.98 1.00 0.98 0.94 0.92 0.93 0.95 0.97		
Ref Az: 325.0		

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	59.87537	99175
not affected by terrain losses	59.87537	99175

\*\*\*\*\*

<b>KAGP-L 34-54-37 120-11-08</b>	<b>8(Z)</b>	<b>3.000 kw 1007</b>
<b>ARROYO GRANDE CA</b>		<b>m DA 10.0 % 68.0</b>
<b>PROPOSED</b>		
1.00 0.94 0.81 0.64 0.46 0.27 0.10 0.04 0.01 0.01 0.01 0.01		
0.05 0.10 0.12 0.12 0.12 0.13 0.14 0.16 0.16 0.12 0.06 0.01		
0.01 0.01 0.01 0.01 0.01 0.03 0.12 0.29 0.46 0.64 0.81 0.94		
Ref Az: 270.0		

Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00

**Area** **Pop**

Interference 0 0

\*\*\*\*\*

K08MM 35-22-08 119-00-14 8(+) 0.065 kw 186 m DA 50.0 % 68.0 dBu

BAKERSFIELD CA

LIC BLTVA20011128ACU

1.00	0.97	0.95	0.93	0.92	0.94	0.98	1.00	0.98	0.95	0.88	0.77
0.63	0.47	0.35	0.23	0.22	0.22	0.23	0.22	0.22	0.23	0.35	0.47
0.63	0.77	0.88	0.95	0.98	1.00	0.98	0.94	0.92	0.93	0.95	0.97

Ref Az: 325.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	59.87537	99175
not affected by terrain losses	59.87537	99175

\*\*\*\*\*

KAGP-L 34-54-37 120-11-08 8(Z) 3.000 kw 1007 m DA 10.0 % 68.0

ARROYO GRANDE CA

PROPOSED

1.00	0.94	0.81	0.64	0.46	0.27	0.10	0.04	0.01	0.01	0.01	0.01
0.05	0.10	0.12	0.12	0.12	0.13	0.14	0.16	0.16	0.12	0.06	0.01
0.01	0.01	0.01	0.01	0.01	0.03	0.12	0.29	0.46	0.64	0.81	0.94

Ref Az: 270.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00

Interference 0 0

\*\*\*\*\*

K08FX 35-41-12 118-25-10 8(N) 0.063 kw 1073 m DA 50.0 % 68.0 dBu

LAKE ISABELLA CA

LIC BLTTV3865

1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Ref Az: 140.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	104.7037	1248
not affected by terrain losses	104.7037	1248

\*\*\*\*\*

KAGP-L 34-54-37 120-11-08 8(Z) 3.000 kw 1007 m DA 10.0 % 68.0

ARROYO GRANDE CA

PROPOSED

1.00	0.94	0.81	0.64	0.46	0.27	0.10	0.04	0.01	0.01	0.01	0.01
0.05	0.10	0.12	0.12	0.12	0.13	0.14	0.16	0.16	0.12	0.06	0.01
0.01	0.01	0.01	0.01	0.01	0.03	0.12	0.29	0.46	0.64	0.81	0.94

Ref Az: 270.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 45.00

Interference 0 0

\*\*\*\*\*

KSBW 36-45-23 121-30-05 8(+) 224.000 kw 1048 m 50.0 % 56.0 dBu  
 SALINAS CA 26635 2944 FCC NTSC BL: 6442897 FCC IX POP%: 0.0  
 LIC BLCT20020424AAN

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	46271.41	4027278
not affected by terrain losses	33329.57	2964151

\*\*\*\*\*

KAGP-L 34-54-37 120-11-08 8(Z) 3.000 kw 1007 m DA 10.0 % 68.0  
 ARROYO GRANDE CA

PROPOSED

1.00	0.94	0.81	0.64	0.46	0.27	0.10	0.04	0.01	0.01	0.01	0.01	0.01
0.05	0.10	0.12	0.12	0.12	0.13	0.14	0.16	0.16	0.12	0.06	0.01	
0.01	0.01	0.01	0.01	0.01	0.03	0.12	0.29	0.46	0.64	0.81	0.94	

Ref Az: 270.0

Using DEFAULT vertical antenna pattern

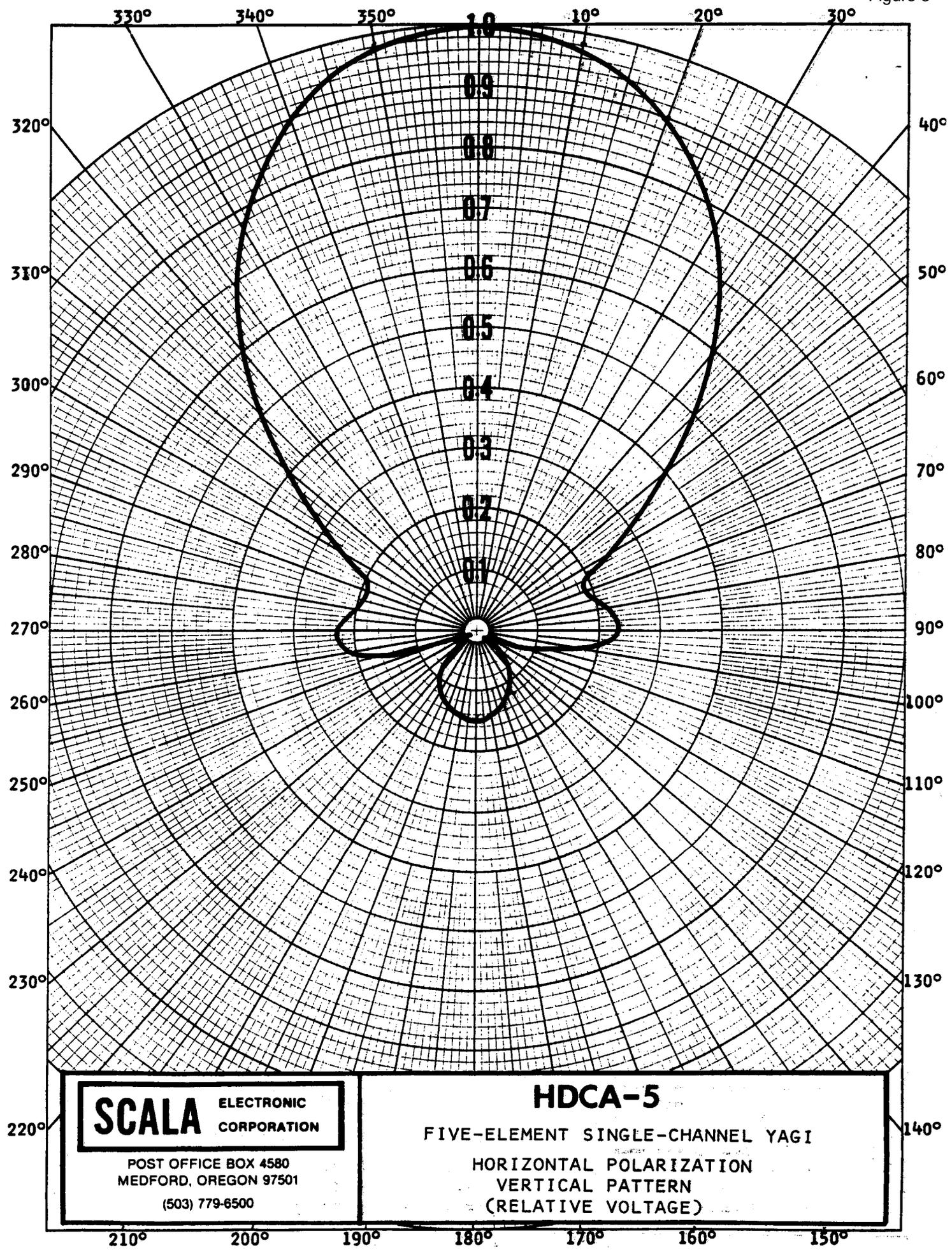
D/U Baseline: 28.00

	Area	Pop
Interference	12.06	0( 0.0 FCC - 0.0)

Summary of Calculations

Facility	Channel	Type	Baseline	Permissible	IX	%Base
K07TA2, SANTA MARIA, CA	7	TV	191507	0.5	0	0.00
K07TA, SANTA MARIA, CA	7	TV	4357	0.5	0	0.00
K08MM3, BAKERSFIELD, CA	8	TV	284500	0.5	0	0.00
K08MM2, BAKERSFIELD, CA	8	TV	99175	0.5	0	0.00
K08MM, BAKERSFIELD, CA	8	TV	99175	0.5	0	0.00
K08FX, LAKE ISABELLA, C	8	TV	1248	0.5	0	0.00
KSBW, SALINAS, CA	8	TV	6442897	0.5	0	0.00

Figure 3



**SCALA** ELECTRONIC CORPORATION

POST OFFICE BOX 4580  
MEDFORD, OREGON 97501  
(503) 779-6500

### HDCA-5

FIVE-ELEMENT SINGLE-CHANNEL YAGI  
HORIZONTAL POLARIZATION  
VERTICAL PATTERN  
(RELATIVE VOLTAGE)