

TECHNICAL EXHIBIT
APPLICATION FOR MODIFICATION OF
DTV CONSTRUCTION PERMIT
STATION KGPE-DT
FRESNO, CALIFORNIA
CH 34 185 KW (MAX-DA) 577 M

Technical Narrative

This Technical Exhibit supports an application for digital television (DTV) station KGPE-DT which is paired with NTSC (analog) channel 47 at Fresno, California. This application requests a modification of its construction permit (CP) for a digital television operation on channel 34 at Fresno.¹ It is proposed by this modification, with respect to the current construction permit to modify the directional antenna system and decrease the maximum effective radiated power.

Proposed Facilities

Station KGPE-DT proposes to operate DTV channel 34 from its currently authorized DTV transmitter site. It is proposed to operate with an Andrew ALP24M6-HSP-34 directional type antenna with a maximum average effective radiated power of 185 kilowatts. The antenna height above average terrain for the channel 34 DTV operation will be 577 meters. An allocation study was completed to ensure no prohibited interference would occur.

¹ See FCC Construction Permit File Number: BPCDT-20020508AAM.

The proposed transmitter site location is described by the following coordinates (NAD-27):

37° 04' 14" North Latitude
119° 25' 31" West Longitude

A map of the transmitter site is provided in Figure 1. A sketch of antenna and pertinent elevations are included as Figure 2. The proposed "peanut" type antenna will be oriented at 220° true. The FCC's Antenna Structure Registration Number for the existing structure is 1015709.

The Appendix contains the antenna manufacturer's horizontal and vertical plane radiation patterns for the proposed DTV antenna system.

Figure 3 is a map showing the predicted F(50,90) noise limited (41 dBu) and city grade (48 dBu) coverage contours. The extent of the contours has been calculated using the normal FCC prediction method. The Fresno city limits were derived from information contained in the 2000 U.S. Census of Population and Housing.

DTV and NTSC Allocation Considerations

The proposed KGPE-DT Channel 34 facility meets the requirements of Section 73.623 of the FCC Rules concerning predicted interference to other existing NTSC facilities and DTV allotments and assignments. Longley-Rice interference analyses were conducted pursuant to the requirements of the FCC Rules; OET Bulletin No. 69; and published FCC guidelines for preparation of such interference analyses. The Longley-Rice interference analyses were conducted using the software

developed by du Treil, Lundin & Rackley, Inc. based on the FCC published software routines.² Stations selected for analysis were determined pursuant to the distance requirements outlined in the FCC DTV Processing Guidelines Public Notice. The results of the interference analyses for the proposed KGPE-DT facility are summarized herein as Figure 4. As indicated therein, the proposed facility will meet the 2%/10% criterion outlined in the FCC Rules and published guidelines with respect to all considered stations.³

Class A Allocation Considerations

The proposed KGPE-DT facility causes prohibited contour overlap, defined pursuant to Section 73.613 of the Commission's Rules, to Class A low powered television station KZMM-LP on channel 20 at Fresno, California. However, using the OET-69 methodology as suggested in Section 73.613(j), the proposed KGPE-DT facility is not predicted to cause prohibited interference to KZMM-LP. Therefore, based upon this OET-69 analysis, a waiver of the contour overlap requirements of Section 73.613 is hereby requested with respect to KZMM-LP (see Figure 5).

2 The duTreil, 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.

3 Interference analysis results reflect the net change in interference to a given station considering the interference predicted to occur from all other stations (i.e. "masking") including the allotment facility for KGPE-DT. This properly reflects the net interference change for determining compliance with the FCC DTV2%/10% *de minimis* standard.

Radiofrequency Electromagnetic Field Exposure

The proposed KGPE-DT facilities were evaluated in terms of potential radiofrequency electromagnetic field exposure at ground level to workers and the general public. The radiation center for the proposed KGPE-DT antenna is located 49 meters above ground level. The maximum effective radiated power is 185 kilowatts. A relative field value of 0.28 is assumed for the antenna's downward radiation. The calculated power density at a point 2 meters above ground level is 0.25 mW/cm^2 . This is 63% of the Commission's recommended limit of 0.4 mW/cm^2 for channel 34 in an "uncontrolled" environment.

However, due the numerous co-located and nearby other television and radio broadcasting stations, the applicant will undertake a radiofrequency electromagnetic field exposure survey after construction of there herein proposed facility to ensure the addition of the DTV facility will not create any areas of excessive groundlevel radiofrequency electromagnetic field exposure in excess of the Commission's standards.

Access to the transmitting site will be restricted and appropriately marked with warning signs. As this is a multi-user site, an agreement will control access to the site. In the event that workers or other authorized personnel enter restricted areas or climb the tower, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such

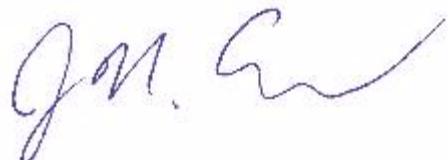
du Treil, Lundin & Rackley, Inc.

Consulting Engineers

Page 5

Fresno, California

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.

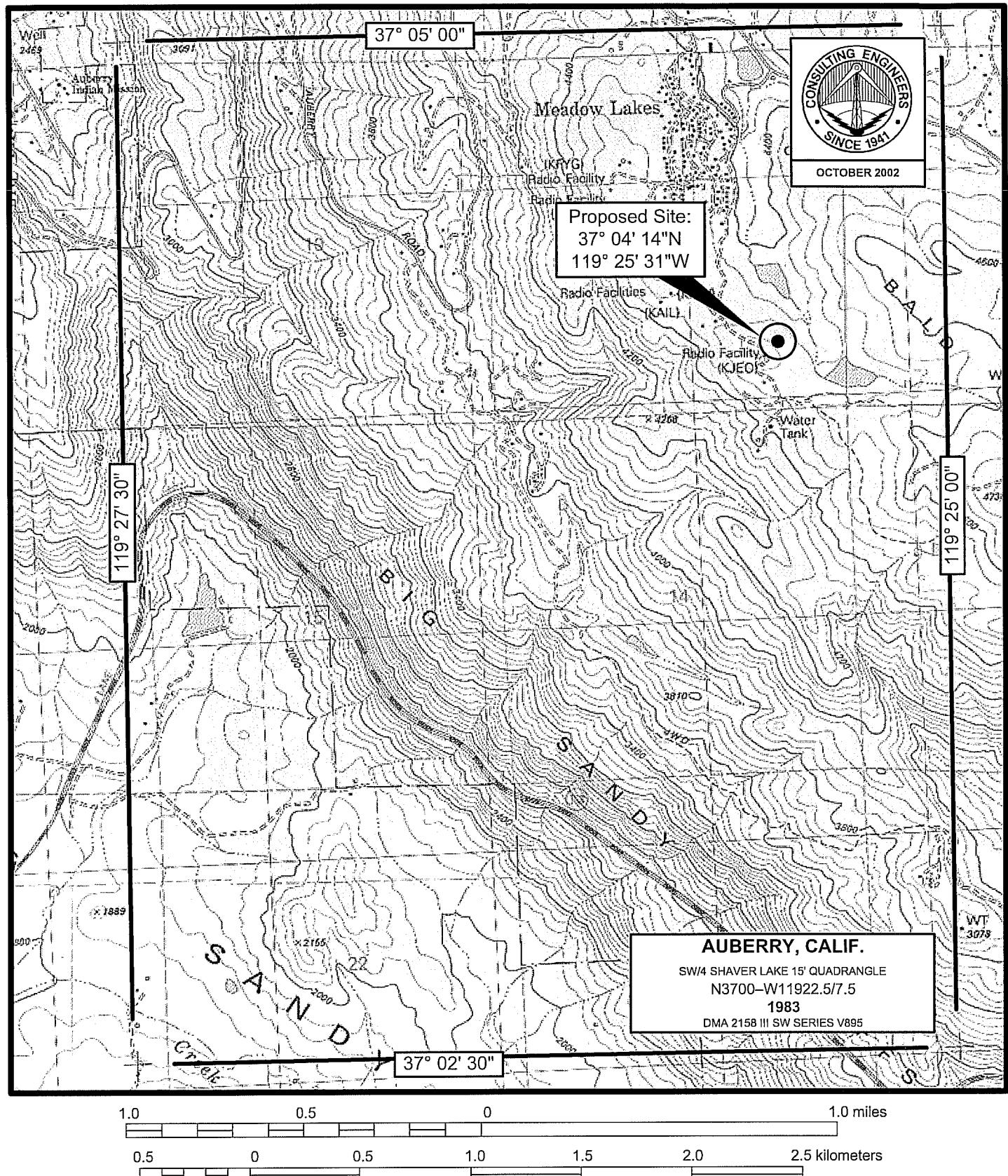


Jonathan N. Edwards

du Treil, Lundin & Rackley, Inc.
201 Fletcher Avenue
Sarasota, Florida 324237
941.329.6000

October 17, 2002

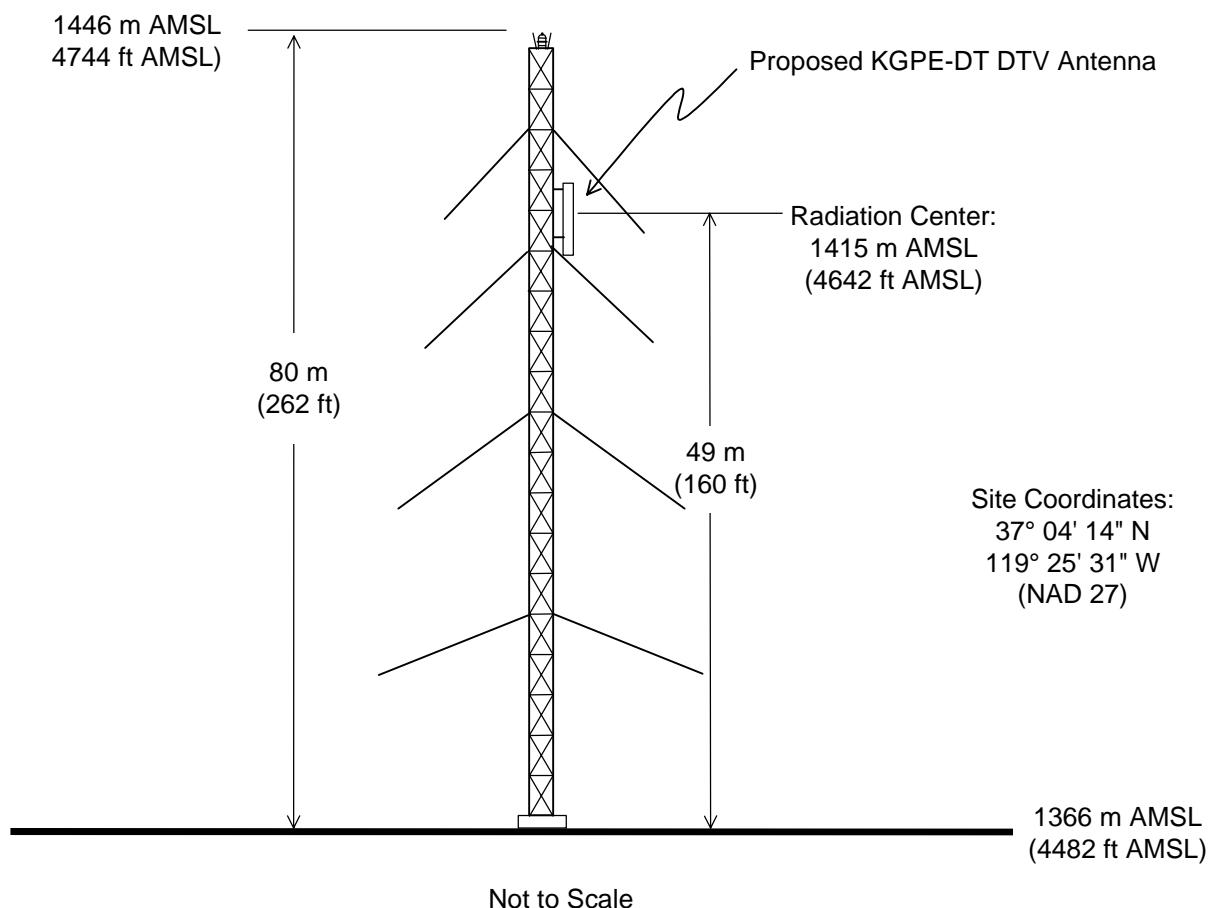
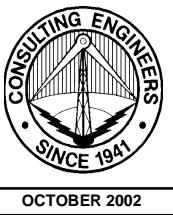
Figure 1



PROPOSED TRANSMITTER LOCATION

TELEVISION STATION KGPE-DT
FRESNO, CALIFORNIA
CH 34 185 KW (MAX-DA) 577 M

Tower Reg. No. 1015709

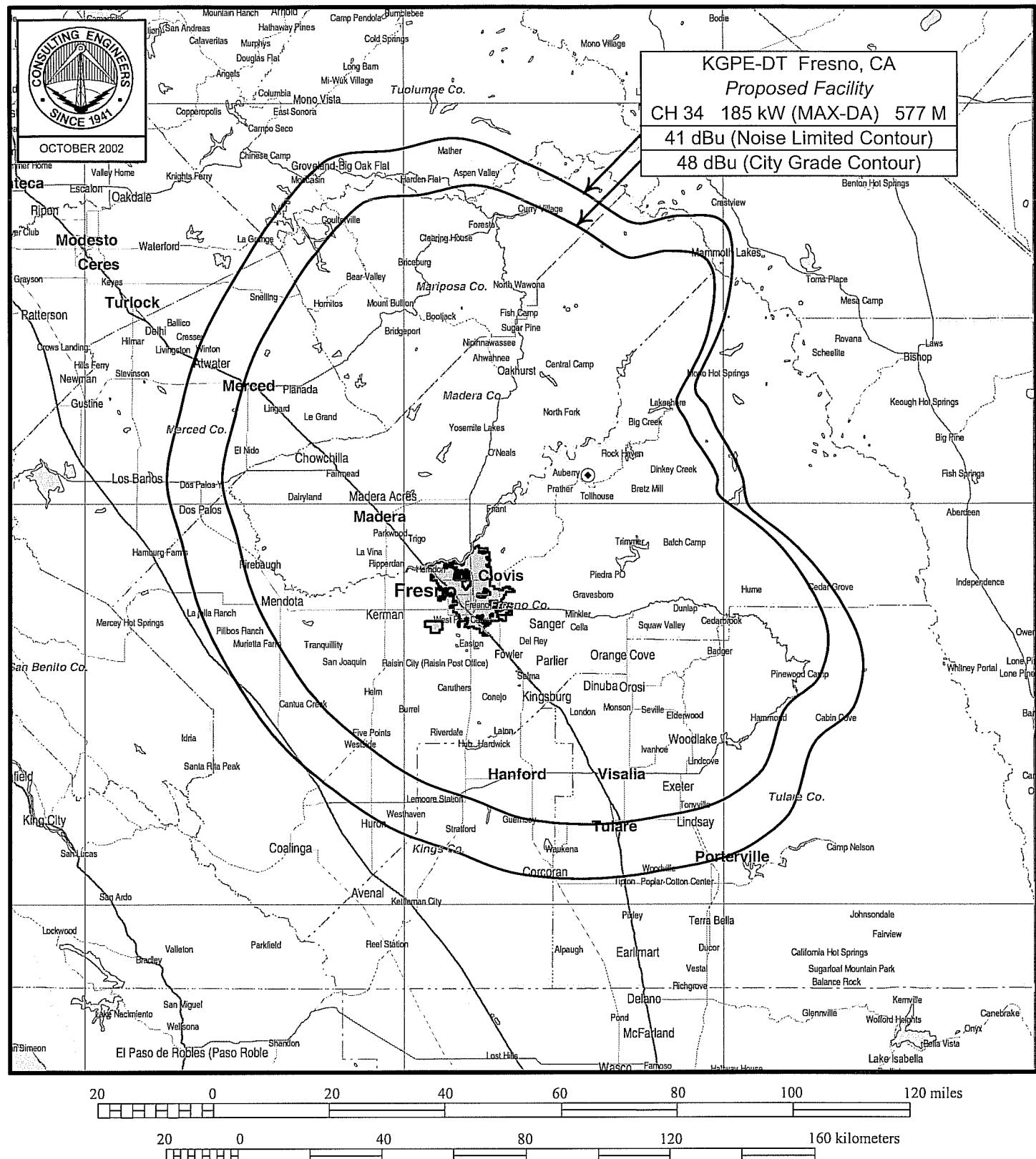


PROPOSED ANTENNA AND SUPPORTING STRUCTURE

**TELEVISION STATION KGPE-DT
FRESNO, CALIFORNIA
CH 34 185 KW (MAX-DA) 577 M**

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

Figure 3



PREDICTED COVERAGE CONTOURS

TELEVISION STATION KGPE-DT

FRESNO, CALIFORNIA

CH 34 185 KW (MAX-DA) 577 M

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

Figure 4
Sheet 1 of 2

TECHNICAL EXHIBIT
APPLICATION MODIFICATION OF DTV CONSTRUCTION PERMIT
STATION KGPE-DT
FRESNO, CALIFORNIA
CH 34 185 KW (MAX-DA) 577 M

Summary of DTV and NTSC OET-69 Allocation Analysis

Facility	Channel	NTSC or DTV?	Baseline Service Population (1990)	Net New IX Caused by Proposed (1990)	Percent of Baseline (%)
960919KZ Bishop, CA BPCT-19960919KZ	20	NTSC		No Interference Predicted	
960702KT Bishop, CA BPCT-19960702KT	20	NTSC		No Interference Predicted	
960920WP Bishop, CA BPCT-19960920IN	20	NTSC		No Interference Predicted	
960919KZ Bishop, CA BPCT-19960919KZ	20	NTSC		No Interference Predicted	
KMPH(TV) Fresno, CA BLCT-19941227KG	26	NTSC		No Interference Predicted	
KFSN-TV Fresno, CA BLCT-19800424KG	30	NTSC	1,144,590	463	0.04
KBAK-DT Bakersfield, CA DTV Allotment	33	DTV		No Interference Predicted	
KBAK-DT Bakersfield, CA BPCDT-19990921AAS	33	DTV		No Interference Predicted	
KMEX-TV Los Angeles, CA BLCT-19790118LF	34	NTSC		No Interference Predicted	

Figure 4
Sheet 2 of 2

KMEX-TV Los Angeles, CA BMPCT-20010727AAZ	34	NTSC	No Interference Predicted		
KTAS-DT San Luis Obispo, CA BMPCDT-20020904AAP	34	DTV	271,918	2	0.00
KTAS-DT San Luis Obispo, CA DTV Allotment	34	DTV	271,918	155	0.06
KTAS-DT San Luis Obispo, CA BPCDT-19990913AAM	34	DTV	271,918	21	0.01
KPST-DT Vallejo, CA BPCDT-19981023KF	34	DTV	5,162,353	21,353	0.41
KPST-DT Vallejo, CA DTV Allotment	34	DTV	5,162,353	16,644	0.32
KRNV-DT Reno, NV DTV Allotment	34	DTV	No Interference Predicted		
KCRA-DT Sacramento, CA DTV Allotment	35	DTV	No Interference Predicted		
KCBA Salinas, CA BLCT-19811022KE	35	NTSC	No Interference Predicted		

Figure 5

TECHNICAL EXHIBIT
APPLICATION MODIFICATION OF DTV CONSTRUCTION PERMIT
STATION KGPE-DT
FRESNO, CALIFORNIA
CH 34 185 KW (MAX-DA) 577 M

Summary of Class A Television OET-69 Allocation Analysis

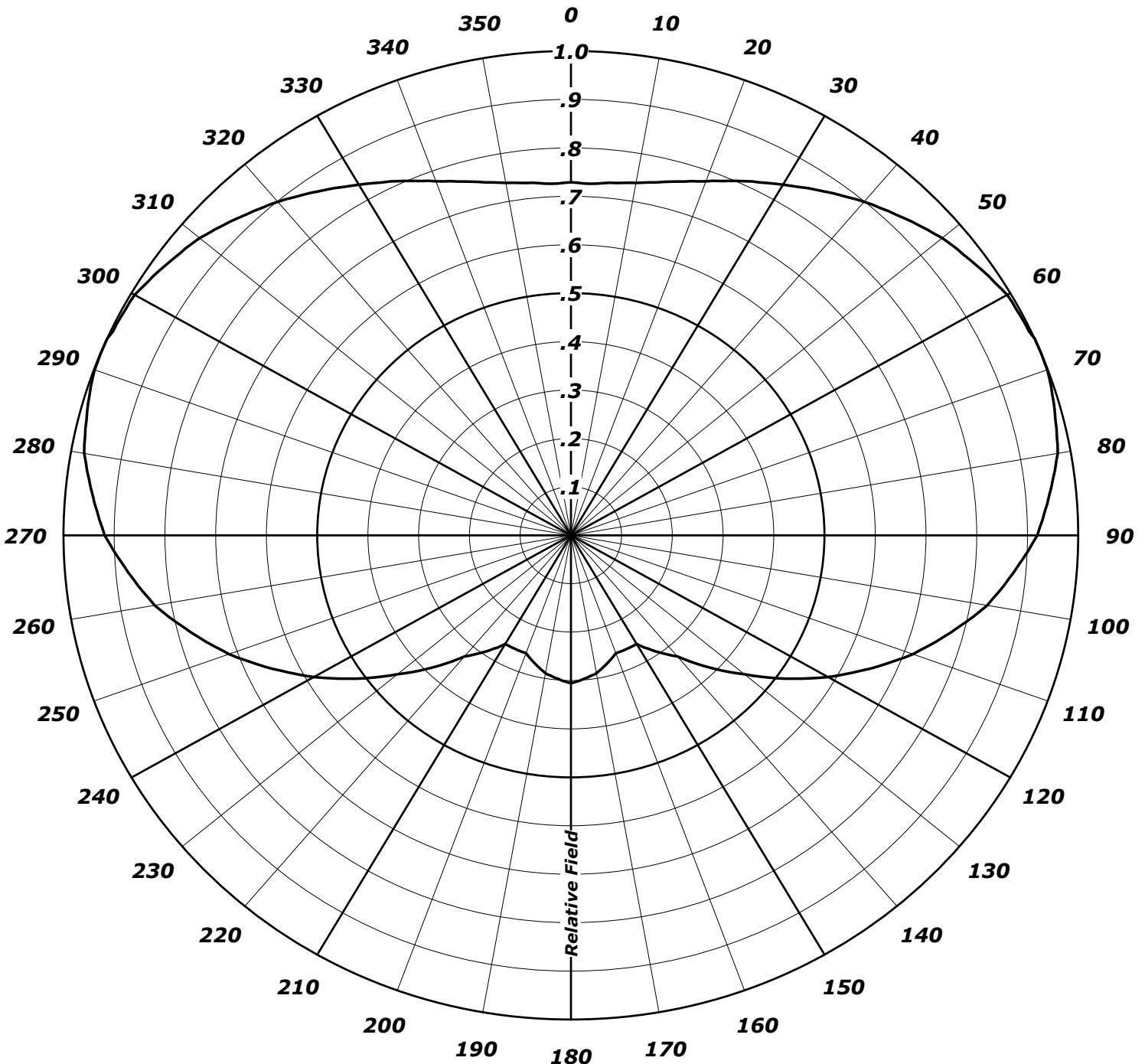
Facility	Channel	NTSC or DTV?	Service Contour Population (1990)	Net New IX Caused by Proposed (1990)	Percent IX(%)
KZMM-LP Fresno, CA <i>BPTVL-20000406AAZ</i>	20	NTSC	171,980	0	0

APPENDIX

MANUFACTURER TRANSMITTING ANTENNA SPECIFICATIONS

ANDREW
AZIMUTH PATTERN

Type:	ALP-P	
Numeric	dBd	
Directivity:	1.88	(2.74)
Peak(s) At:		
Polarization:		
Channel:		
Location:		

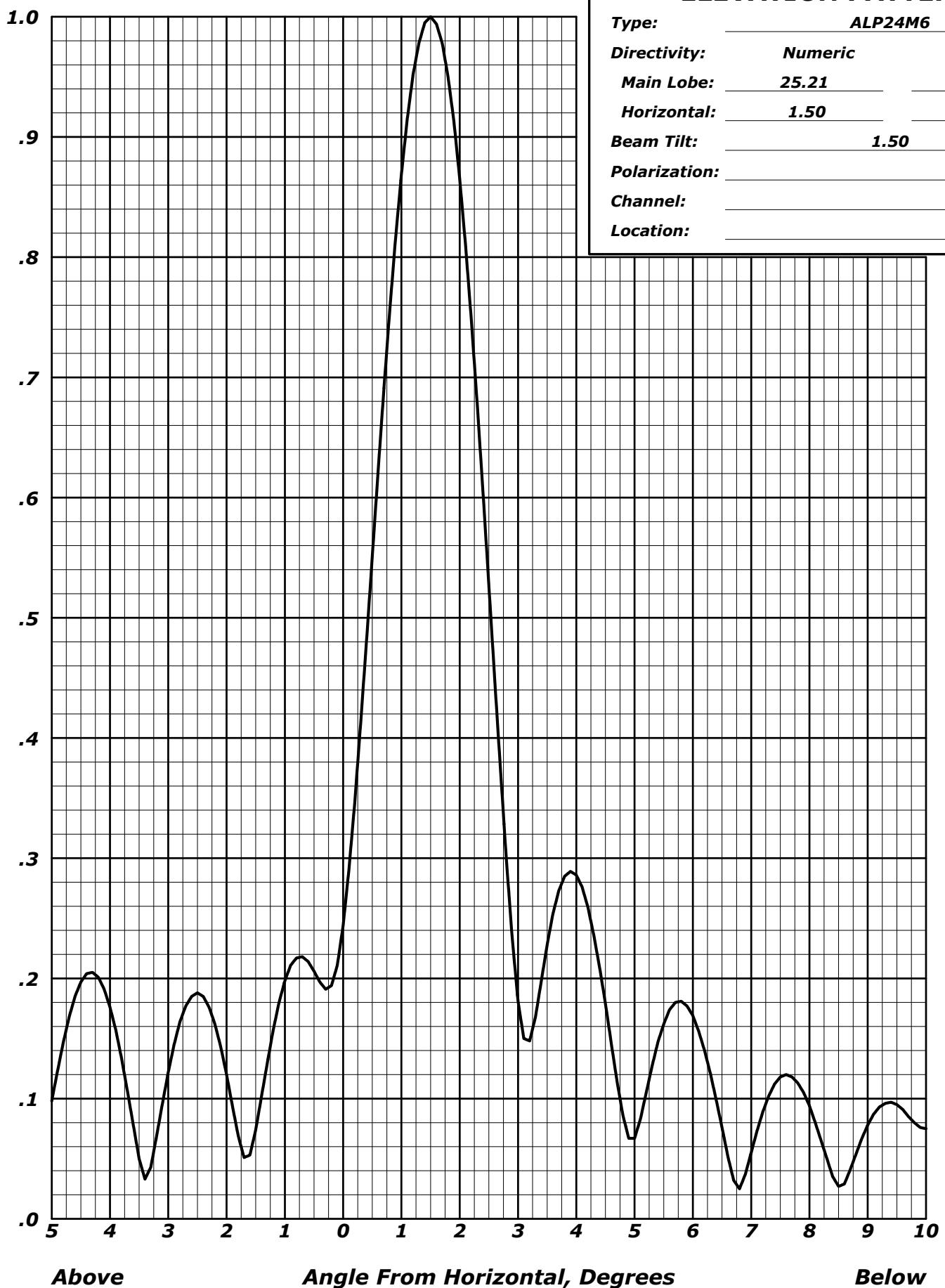


**TABULATED DATA FOR AZIMUTH PATTERN****TYPE : ALP-P**

Angle	Field	dB									
0	0.729	-2.75	110	0.717	-2.89	220	0.326	-9.74	330	0.836	-1.56
2	0.727	-2.77	112	0.690	-3.22	222	0.350	-9.12	332	0.824	-1.68
4	0.728	-2.76	114	0.664	-3.56	224	0.374	-8.54	334	0.813	-1.80
6	0.732	-2.71	116	0.637	-3.92	226	0.398	-8.00	336	0.801	-1.93
8	0.735	-2.67	118	0.611	-4.28	228	0.422	-7.49	338	0.789	-2.06
10	0.739	-2.63	120	0.585	-4.66	230	0.446	-7.01	340	0.778	-2.18
12	0.745	-2.56	122	0.557	-5.08	232	0.474	-6.48	342	0.769	-2.28
14	0.752	-2.48	124	0.529	-5.53	234	0.502	-5.99	344	0.760	-2.38
16	0.760	-2.38	126	0.502	-5.99	236	0.529	-5.53	346	0.752	-2.48
18	0.769	-2.28	128	0.474	-6.48	238	0.557	-5.08	348	0.745	-2.56
20	0.778	-2.18	130	0.446	-7.01	240	0.585	-4.66	350	0.739	-2.63
22	0.789	-2.06	132	0.422	-7.49	242	0.611	-4.28	352	0.735	-2.67
24	0.801	-1.93	134	0.398	-8.00	244	0.637	-3.92	354	0.732	-2.71
26	0.813	-1.80	136	0.374	-8.54	246	0.664	-3.56	356	0.728	-2.76
28	0.824	-1.68	138	0.350	-9.12	248	0.690	-3.22	358	0.727	-2.77
30	0.836	-1.56	140	0.326	-9.74	250	0.717	-2.89	360	0.729	-2.75
32	0.848	-1.43	142	0.313	-10.09	252	0.740	-2.62			
34	0.861	-1.30	144	0.299	-10.49	254	0.763	-2.35			
36	0.874	-1.17	146	0.286	-10.87	256	0.786	-2.09			
38	0.886	-1.05	148	0.273	-11.28	258	0.810	-1.83			
40	0.899	-0.92	150	0.259	-11.73	260	0.833	-1.59			
42	0.910	-0.82	152	0.259	-11.73	262	0.850	-1.41			
44	0.921	-0.71	154	0.259	-11.73	264	0.867	-1.24			
46	0.933	-0.60	156	0.259	-11.73	266	0.884	-1.07			
48	0.944	-0.50	158	0.259	-11.73	268	0.902	-0.90			
50	0.955	-0.40	160	0.259	-11.73	270	0.919	-0.73			
52	0.963	-0.33	162	0.265	-11.54	272	0.930	-0.63			
54	0.970	-0.26	164	0.271	-11.34	274	0.941	-0.53			
56	0.978	-0.19	166	0.277	-11.15	276	0.952	-0.43			
58	0.985	-0.13	168	0.283	-10.96	278	0.963	-0.33			
60	0.993	-0.06	170	0.289	-10.78	280	0.974	-0.23			
62	0.994	-0.05	172	0.292	-10.69	282	0.979	-0.18			
64	0.996	-0.03	174	0.296	-10.57	284	0.984	-0.14			
66	1.000	0.00	176	0.299	-10.49	286	0.990	-0.09			
68	1.000	0.00	178	0.302	-10.40	288	0.995	-0.04			
70	0.999	-0.01	180	0.305	-10.31	290	0.999	-0.01			
72	0.995	-0.04	182	0.302	-10.40	292	1.000	0.00			
74	0.990	-0.09	184	0.299	-10.49	294	1.000	0.00			
76	0.984	-0.14	186	0.296	-10.57	296	0.996	-0.03			
78	0.979	-0.18	188	0.292	-10.69	298	0.994	-0.05			
80	0.974	-0.23	190	0.289	-10.78	300	0.993	-0.06			
82	0.963	-0.33	192	0.283	-10.96	302	0.985	-0.13			
84	0.952	-0.43	194	0.277	-11.15	304	0.978	-0.19			
86	0.941	-0.53	196	0.271	-11.34	306	0.970	-0.26			
88	0.930	-0.63	198	0.265	-11.54	308	0.963	-0.33			
90	0.919	-0.73	200	0.259	-11.73	310	0.955	-0.40			
92	0.902	-0.90	202	0.259	-11.73	312	0.944	-0.50			
94	0.884	-1.07	204	0.259	-11.73	314	0.933	-0.60			
96	0.867	-1.24	206	0.259	-11.73	316	0.921	-0.71			
98	0.850	-1.41	208	0.259	-11.73	318	0.910	-0.82			
100	0.833	-1.59	210	0.259	-11.73	320	0.899	-0.92			
102	0.810	-1.83	212	0.273	-11.28	322	0.886	-1.05			
104	0.786	-2.09	214	0.286	-10.87	324	0.874	-1.17			
106	0.763	-2.35	216	0.299	-10.49	326	0.861	-1.30			
108	0.740	-2.62	218	0.313	-10.09	328	0.848	-1.43			



ANDREW ELEVATION PATTERN



**TABULATED DATA FOR ELEVATION PATTERN****TYPE : ALP24M6**

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-5 To 10			10 To 90								
In 0.25 Increments						In 0.5 Increments					
-5.00	0.098	-20.18	8.75	0.047	-26.47	35.00	0.096	-20.35	62.50	0.075	-22.50
-4.75	0.158	-16.05	9.00	0.078	-22.16	35.50	0.050	-26.02	63.00	0.113	-18.94
-4.50	0.197	-14.11	9.25	0.095	-20.49	36.00	0.029	-30.75	63.50	0.157	-16.08
-4.25	0.203	-13.85	9.50	0.095	-20.45	36.50	0.052	-25.68	64.00	0.200	-13.98
-4.00	0.176	-15.09	9.75	0.082	-21.67	37.00	0.060	-24.44	64.50	0.237	-12.51
-3.75	0.119	-18.45	10.00	0.075	-22.50	37.50	0.044	-27.13	65.00	0.264	-11.57
-3.50	0.050	-26.02	10.50	0.138	-17.20	38.00	0.018	-34.89	65.50	0.278	-11.12
-3.25	0.056	-25.04	11.00	0.219	-13.19	38.50	0.027	-31.37	66.00	0.279	-11.09
-3.00	0.122	-18.27	11.50	0.242	-12.32	39.00	0.044	-27.13	66.50	0.266	-11.50
-2.75	0.170	-15.37	12.00	0.198	-14.07	39.50	0.043	-27.33	67.00	0.243	-12.29
-2.50	0.188	-14.52	12.50	0.116	-18.71	40.00	0.027	-31.37	67.50	0.211	-13.51
-2.25	0.169	-15.44	13.00	0.042	-27.54	40.50	0.007	-43.10	68.00	0.173	-15.24
-2.00	0.120	-18.42	13.50	0.012	-38.42	41.00	0.023	-32.77	68.50	0.133	-17.52
-1.75	0.060	-24.44	14.00	0.011	-39.17	41.50	0.033	-29.63	69.00	0.094	-20.54
-1.50	0.074	-22.62	14.50	0.001	-60.00	42.00	0.029	-30.75	69.50	0.061	-24.29
-1.25	0.143	-16.86	15.00	0.005	-46.02	42.50	0.015	-36.48	70.00	0.041	-27.74
-1.00	0.198	-14.07	15.50	0.008	-41.94	43.00	0.010	-40.00	70.50	0.043	-27.33
-0.75	0.218	-13.25	16.00	0.023	-32.77	43.50	0.023	-32.77	71.00	0.055	-25.19
-0.50	0.206	-13.72	16.50	0.026	-31.70	44.00	0.027	-31.37	71.50	0.066	-23.61
-0.25	0.193	-14.31	17.00	0.011	-39.17	44.50	0.023	-32.77	72.00	0.073	-22.73
0.00	0.244	-12.25	17.50	0.019	-34.42	45.00	0.022	-33.15	72.50	0.075	-22.50
0.25	0.380	-8.42	18.00	0.037	-28.64	45.50	0.034	-29.37	73.00	0.072	-22.85
0.50	0.551	-5.18	18.50	0.031	-30.17	46.00	0.047	-26.56	73.50	0.065	-23.74
0.75	0.724	-2.81	19.00	0.011	-39.17	46.50	0.052	-25.68	74.00	0.056	-25.04
1.00	0.869	-1.22	19.50	0.038	-28.40	47.00	0.046	-26.74	74.50	0.046	-26.74
1.25	0.965	-0.31	20.00	0.052	-25.68	47.50	0.032	-29.90	75.00	0.035	-29.12
1.50	1.000	0.00	20.50	0.047	-26.56	48.00	0.016	-35.92	75.50	0.025	-32.04
1.75	0.964	-0.32	21.00	0.090	-20.92	48.50	0.002	-53.98	76.00	0.017	-35.39
2.00	0.865	-1.26	21.50	0.170	-15.39	49.00	0.005	-46.02	76.50	0.014	-37.08
2.25	0.712	-2.94	22.00	0.231	-12.73	49.50	0.006	-44.44	77.00	0.017	-35.39
2.50	0.527	-5.56	22.50	0.241	-12.36	50.00	0.008	-41.94	77.50	0.022	-33.15
2.75	0.336	-9.47	23.00	0.195	-14.20	50.50	0.016	-35.92	78.00	0.026	-31.70
3.00	0.181	-14.85	23.50	0.115	-18.79	51.00	0.023	-32.77	78.50	0.029	-30.75
3.25	0.158	-16.03	24.00	0.040	-27.96	51.50	0.024	-32.40	79.00	0.031	-30.17
3.50	0.228	-12.84	24.50	0.048	-26.38	52.00	0.019	-34.42	79.50	0.032	-29.90
3.75	0.279	-11.09	25.00	0.060	-24.44	52.50	0.010	-40.00	80.00	0.032	-29.90
4.00	0.286	-10.87	25.50	0.043	-27.33	53.00	0.015	-36.48	80.50	0.031	-30.17
4.25	0.247	-12.13	26.00	0.015	-36.48	53.50	0.028	-31.06	81.00	0.029	-30.75
4.50	0.179	-14.94	26.50	0.021	-33.56	54.00	0.036	-28.87	81.50	0.027	-31.37
4.75	0.100	-20.00	27.00	0.028	-31.06	54.50	0.036	-28.87	82.00	0.025	-32.04
5.00	0.067	-23.48	27.50	0.020	-33.98	55.00	0.027	-31.37	82.50	0.022	-33.15
5.25	0.116	-18.71	28.00	0.006	-44.44	55.50	0.012	-38.42	83.00	0.020	-33.98
5.50	0.162	-15.81	28.50	0.006	-44.44	56.00	0.012	-38.42	83.50	0.017	-35.39
5.75	0.180	-14.87	29.00	0.007	-43.10	56.50	0.028	-31.06	84.00	0.015	-36.48
6.00	0.169	-15.44	29.50	0.003	-50.46	57.00	0.040	-27.96	84.50	0.013	-37.72
6.25	0.131	-17.69	30.00	0.001	-60.00	57.50	0.043	-27.33	85.00	0.011	-39.17
6.50	0.076	-22.38	30.50	0.002	-53.98	58.00	0.037	-28.64	85.50	0.009	-40.92
6.75	0.029	-30.90	31.00	0.008	-41.94	58.50	0.023	-32.77	86.00	0.007	-43.10
7.00	0.055	-25.19	31.50	0.012	-38.42	59.00	0.012	-38.42	86.50	0.006	-44.44
7.25	0.096	-20.40	32.00	0.016	-35.92	59.50	0.027	-31.37	87.00	0.005	-46.02
7.50	0.118	-18.56	32.50	0.039	-28.18	60.00	0.045	-26.94	87.50	0.004	-47.96
7.75	0.115	-18.75	33.00	0.077	-22.27	60.50	0.055	-25.19	88.00	0.003	-50.46
8.00	0.094	-20.54	33.50	0.114	-18.86	61.00	0.057	-24.88	88.50	0.002	-53.98
8.25	0.057	-24.81	34.00	0.135	-17.39	61.50	0.052	-25.68	89.00	0.001	-60.00
8.50	0.027	-31.37	34.50	0.129	-17.79	62.00	0.054	-25.35	89.50	0.001	-60.00