KLEIN BROADCAST ENGINEERING, L.L.C.

dedicated to improving the science and technology of radio & television communications

JULY 2009

FCC FORM 349 APPLICATION
FOR
MODIFICATION of EXISTING FM BOOSTER STATION
for
CONSTRUCTION PERMIT

HUTTON BROADCASTING, L.L.C.
KBAC-FM1
FM CHANNEL 251 / 98.1mHz.
SANTA FE, NEW MEXICO

INTRODUCTION and ENGINEERING STATEMENT

The engineering portion of this application was prepared by the firm of Klein Broadcast Engineering, L.L.C., in support of an application filed by Hutton Broadcasting, L.L.C., for an FM Booster Station Construction Permit to modify its existing FM Booster Station KBAC-FM1 at Santa Fe, New Mexico.

The information supplied herein supports the requested minor change as filed on FCC Form 349.

The proposed minor changes for FM Booster Station KBAC-FM1 is for operation with its parent station FM Broadcast Station KBAC(FM) at Las Vegas, New Mexico, on FM Channel 251C/98.1mHz. (FCC Facility ID# 40639) FM Booster Station KBAC-FM1 serves the Community of Santa Fe, New Mexico.

INTRODUCTION and ENGINEERING STATEMENT cont'd page two: KBAC-FM1

The facility proposed will use a Kathrein-Scala (SCA) model, CL-FM/VRM/50N, an eight element log periodic type antenna to be used in the vertical plane only. The antenna will be a composite directional antenna comprised of two of the above captioned antenna types with one antenna oriented at 75 degrees true and the other antenna oriented at 155 degrees true with a 50%/50% power split. The composite antenna pattern orientation will be maximum at 115 degrees true for operation on FM Channel 251/98.1 mHz., with 12.0kW effective radiated power (ERP).

The center of radiation (COR) for the proposed composite directional antenna will be 51 meters AGL, on an existing tower structure. The ground level at the site is 2121.4 meters AMSL.

The antenna location is proposed at NL:35-41-20 / WL:105-58-42 (NAD-27)

The equipment to be used will be type accepted by the Commission.

Overall Antenna Support Structure Height Above Ground	**60.6**	**meters**
Elevation of Site Above Mean Sea Level	**2121.4**	**meters**
Height of Antenna Radiation Center AMSL	**2172.4**	**meters**
Height of Antenna Radiation Center AGL	**51.0**	**meters**
Major Lobe Direction	**115 degrees True**	

Antenna Support Registration Number (ASR#) 1224069

INTRODUCTION and ENGINEERING STATEMENT cont'd page three: KBAC-FM1

FM ALLOCATION CONSIDERATIONS

Engineering Exhibit E-1 is an FCC FM Channel Spacing Study for the Proposed New FM Booster Station. The proposed booster station was studied as a Class A station. The exhibit shows short spacing to the co-channel KBAC(FM) Main site, for which this proposed booster will re-transmit. There are no co-channel or IF short-spacings shown or known to exist.

Engineering Exhibit E-2 is an analysis of the proposed 60dBu f(50,50) contour proposed for KBAC-FM1 Booster Station and also plotted thereon is the 60dBu f(50,50) contour of the primary FM Station KBAC(FM) on FM channel 251C / 98.1mHz at Las Vegas, New Mexico. The exhibit shows clearly the proposed 60dBu contour of the proposed New FM Booster Station is wholly contained within the f(50,50) 60dBu contour of the main station KBAC(FM).

Exhibit E-3 is a plot of the azimuth pattern to be used on the proposed directional antenna. Included in this exhibit is a tabulation of the proposed directional antenna pattern. The antenna proposed is a Kathrein-Scala (SCA) CL-FM/VRM/50N, vertically polarized FM log periodic type eight element, composite directional antenna using two of the above captioned antenna types and model as described elsewhere in this FCC Form 349 application.

FAA NOTIFICATION

The proposed FM Booster station antenna will be mounted on an existing tower. No new antenna support construction is proposed. Notification to the FAA was not made.

ENVIRONMENTAL STATEMENT

The proposed facility for the new KBAC-FM1 Booster Station, will have its antenna mounted on an existing antenna support structure. The applicant will cooperate with other users of the site with regard to the cessation of operation or the reduction of operating power, whatever is necessary to comply with the Commission's Rules, Regulations and Guidelines on Human Exposure to Non-Ionizing RF Radiation. Details of actual compliance with the Commission's RFR Guidelines may be found in Exhibit E-10RHS. Engineering Exhibit E-10RHS is a detailed study of the proposed FM booster station facility with regard to its contribution to RFR levels on the site.

<u>INTRODUCTION and ENGINEERING STATEMENT</u> cont'd page five: KBAC-FM1

The applicant, Hutton Broadcasting, L.L.C., respectfully requests the Commission consider and grant this instant application for the requested facility for KBAC-FM1 FM Booster Station for operation with KBAC(FM).

Respectfully submitted,

Elliott Kurt Klein, Consulting Broadcast Engineer

Hutton Broadcasting, L.L.C.
FM Broadcast Station KBAC(FM)
Las Vegas, New Mexico

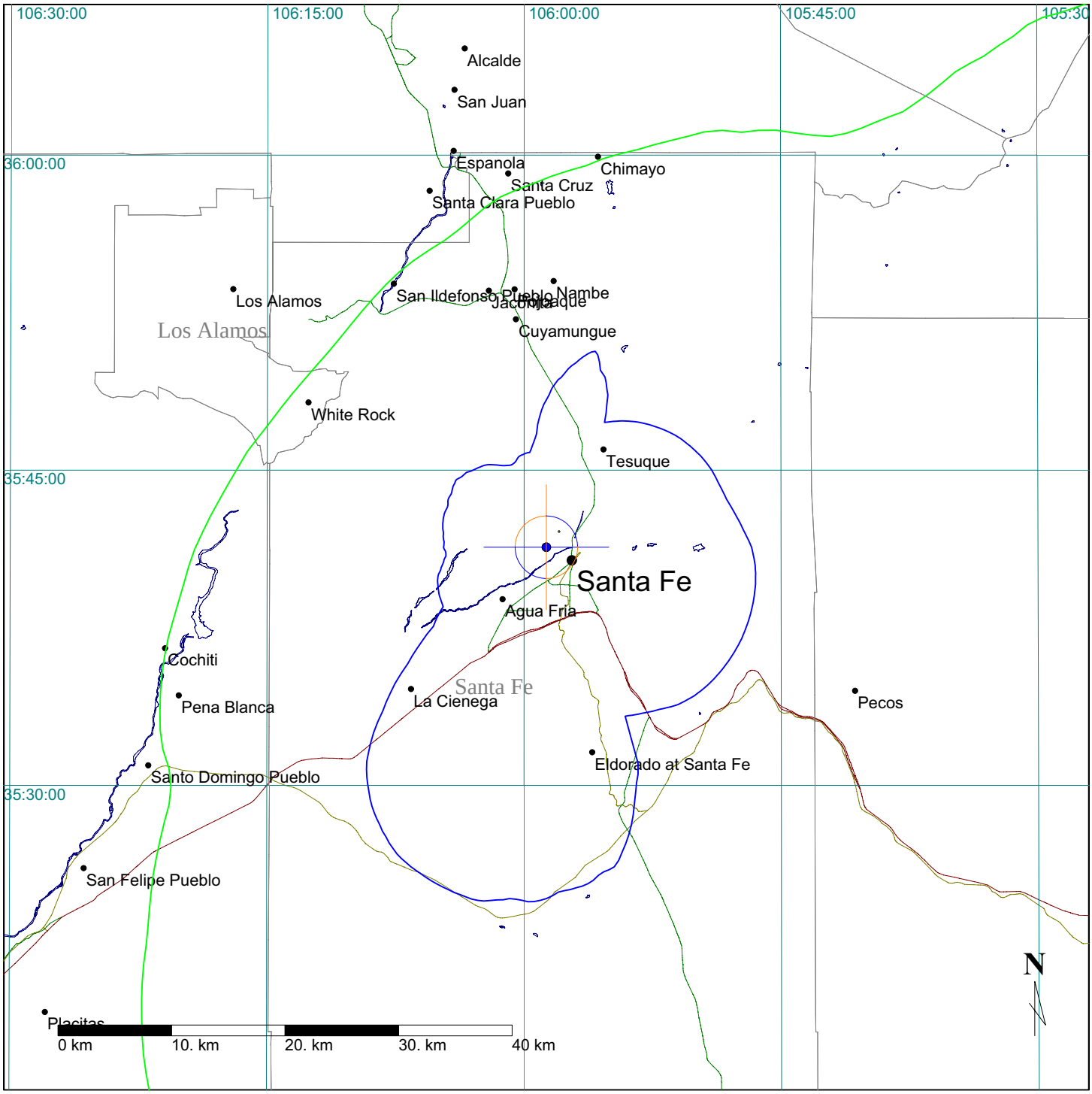
20 July 2009

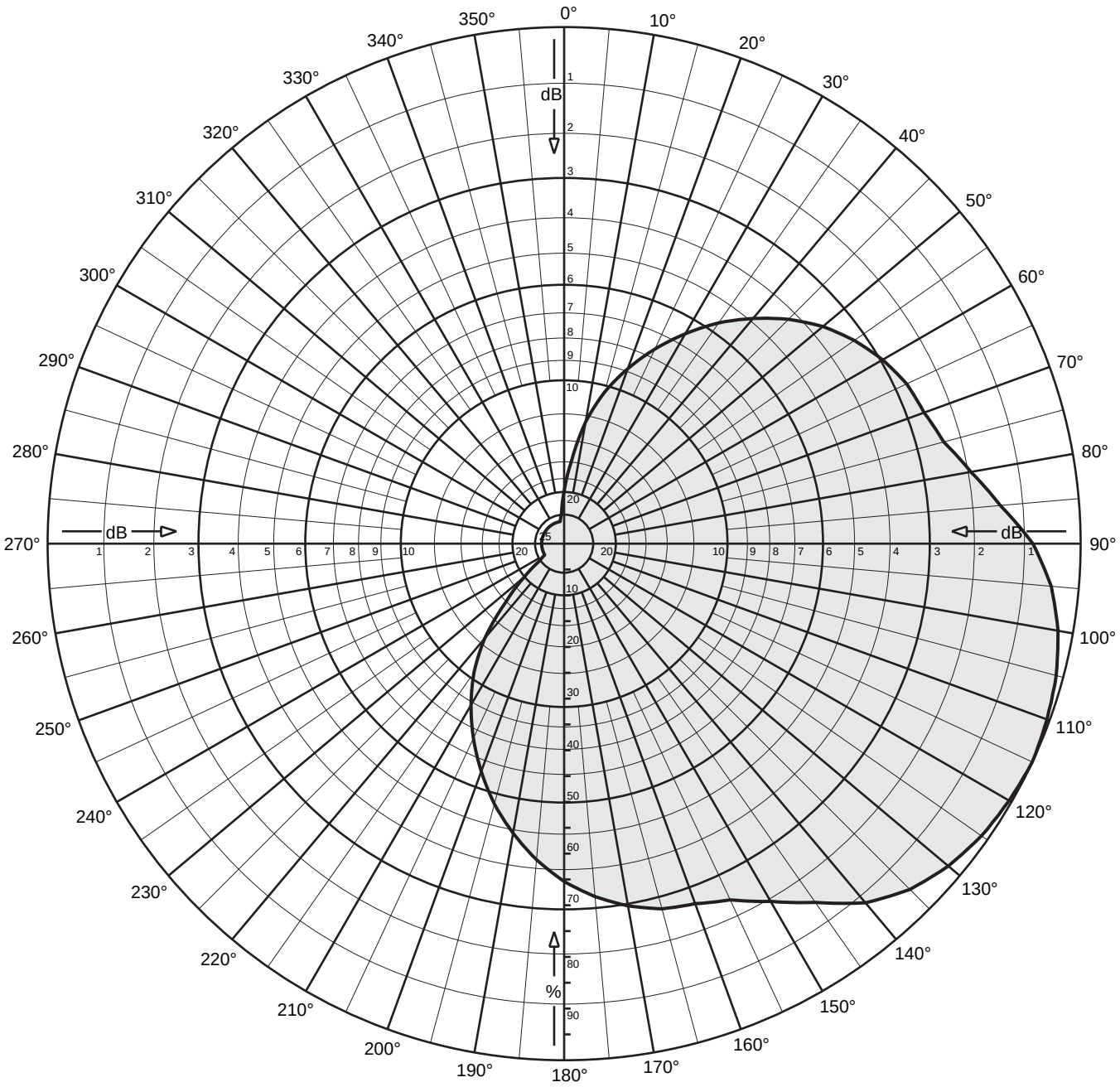
Lat: N35:41:20 Lon: W105:58:42 NAD-27(Proposed Transmitter Site Location Geographic Coordinates)
Channel: 251 Class: A
Status: Licensed, Construction Permit, Application, Addition, Vacant/Reserved
Channels: Co-Channel, 1st Adj, 2nd Adj, 3rd Adj, IF, TV6
Range: 100 km
Comments: No Comments
Description: EXHIBIT E-1 FCC FM CHANNEL SPACING STUDY KBAC-FM1

Callsign	Latitude (NAD27	Longitude (NAD27	City	State	Serv	Channel	Class	ERP	HAAT	Status	73 207 Min	73 207 Clear	73 215 Min	73 215 Clear	Adjacency	Distance	Beari
KBAC	N35:22:20	W105:22:02	LAS VEGAS	NM	FM	251 : 98.1 MHz	C	100.00	316	LIC	226	-160.38	203	-137.38	Co-Chan	65.62	122
KABG	N35:46:49	W106:31:37	LOS ALAMOS	NM	FM	253 : 98.5 MHz	C	100.00	581	LIC	95	-44.35	89	-38.35	2nd Adj	50.65	282
KBAC-FM	N35:42:05	W105:57:58	SANTA FE	NM	FM	251 : 98.1 MHz	DB	0.00	23	LIC	0	1.77	0	1.77	Co-Chan	1.77	039
KDLW	N34:47:55	W106:48:59	BELEN	NM	FM	249 : 97.7 MHz	C1	98.40	262	LIC	75	49.79	69	55.79	2nd Adj	124.79	218
K251AU	N35:12:44	W106:26:58	ALBUQUERQU	NM	FM	251 : 98.1 MHz	DX	0.01	0	LIC	0	68.01	0	68.01	Co-Chan	68.01	219

EXHIBIT E-2 60dBu KBAC Main & Proposed Booster Station Contour Analysis

Klein Broadcast Engineering, L.L.C.
Job: KBAC-FM1 SBA SITE 20090715.fmj
Master Database: 2009_Jul_15.fmd Date: 7/17/2009
Lat: N35:41:20 Lon: W105:58:42 NAD-27
Scale: 1:500000
Channel: 251 Class: A
Status: Licensed, Application, Addition, Vacant/Reserved
Terrain Database: DMA 3 Arc Second Digitized Terrain Datafile, Conus.
Contour Prediction Method: FCC Standard f(50,50), 360 Radials.
Comments: Analysis of Existing Main Licensed KBAC Facility & Proposed Booster Station Facility.
Description: EXHIBIT E-1 PROPOSED KBAC-FM1 & KBAC MAIN 60dBu CONTOUR ANALYSIS 20090717





Two CL-FM/VRM/50N Log-periodic Antennas
Oriented at 75 and 155 degrees
Gain: 6.2 dBd.
Frequency: 98.1 MHz
Vertical Polarization
Horizontal plane Pattern

KATHREIN
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Horizontal plane Pattern

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
0	0.101	-19.88	-13.68	0.04	180	0.654	-3.69	2.51	1.78
5	0.159	-15.95	-9.75	0.11	185	0.614	-4.23	1.97	1.57
10	0.239	-12.43	-6.23	0.24	190	0.569	-4.89	1.31	1.35
15	0.304	-10.33	-4.13	0.39	195	0.522	-5.65	0.55	1.13
20	0.361	-8.86	-2.66	0.54	200	0.469	-6.57	-0.37	0.92
25	0.416	-7.63	-1.43	0.72	205	0.416	-7.63	-1.43	0.72
30	0.469	-6.57	-0.37	0.92	210	0.361	-8.86	-2.66	0.54
35	0.522	-5.65	0.55	1.13	215	0.304	-10.33	-4.13	0.39
40	0.569	-4.89	1.31	1.35	220	0.239	-12.43	-6.23	0.24
45	0.614	-4.23	1.97	1.57	225	0.159	-15.95	-9.75	0.11
50	0.654	-3.69	2.51	1.78	230	0.101	-19.88	-13.68	0.04
55	0.686	-3.28	2.92	1.96	235	0.058	-24.74	-18.54	0.01
60	0.712	-2.95	3.25	2.11	240	0.043	-27.23	-21.03	0.01
65	0.732	-2.71	3.49	2.23	245	0.043	-27.23	-21.03	0.01
70	0.742	-2.60	3.60	2.29	250	0.043	-27.23	-21.03	0.01
75	0.761	-2.37	3.83	2.41	255	0.043	-27.23	-21.03	0.01
80	0.800	-1.94	4.26	2.67	260	0.043	-27.23	-21.03	0.01
85	0.848	-1.43	4.77	3.00	265	0.043	-27.23	-21.03	0.01
90	0.908	-0.84	5.36	3.43	270	0.043	-27.23	-21.03	0.01
95	0.947	-0.48	5.72	3.74	275	0.043	-27.23	-21.03	0.01
100	0.971	-0.26	5.94	3.93	280	0.043	-27.23	-21.03	0.01
105	0.986	-0.12	6.08	4.05	285	0.043	-27.23	-21.03	0.01
110	0.995	-0.04	6.16	4.13	290	0.043	-27.23	-21.03	0.01
115	1.000	0.00	6.20	4.17	295	0.043	-27.23	-21.03	0.01
120	0.995	-0.04	6.16	4.13	300	0.043	-27.23	-21.03	0.01
125	0.986	-0.12	6.08	4.05	305	0.043	-27.23	-21.03	0.01
130	0.971	-0.26	5.94	3.93	310	0.043	-27.23	-21.03	0.01
135	0.947	-0.48	5.72	3.74	315	0.043	-27.23	-21.03	0.01
140	0.908	-0.84	5.36	3.43	320	0.043	-27.23	-21.03	0.01
145	0.848	-1.43	4.77	3.00	325	0.043	-27.23	-21.03	0.01
150	0.800	-1.94	4.26	2.67	330	0.043	-27.23	-21.03	0.01
155	0.761	-2.37	3.83	2.41	335	0.043	-27.23	-21.03	0.01
160	0.742	-2.60	3.60	2.29	340	0.043	-27.23	-21.03	0.01
165	0.732	-2.71	3.49	2.23	345	0.043	-27.23	-21.03	0.01
170	0.712	-2.95	3.25	2.11	350	0.043	-27.23	-21.03	0.01
175	0.686	-3.28	2.92	1.96	355	0.058	-24.74	-18.54	0.01

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JULY 2009

EXHIBIT E-10RHS
FCC FORM 349 APPLICATION
FOR MODIFICATION FM BOOSTER STATION CONSTRUCTION PERMIT

KBAC-FM1
(FCC FACILITY ID# 40638)
HUTTON BROADCASTING, L.L.C.
FM CHANNEL 251 / 98.1 mHz.
SANTA FE , NEW MEXICO

RF RADIATION HAZARD COMPLIANCE STATEMENT

The facilities proposed herein by the applicant, permittee or licensee, in this Engineering Exhibit comply with FCC O.S.T. Bulletin #65 and #65A as revised (1997) and the ANSI C-95.1-1982 RF and ANSI C95.1992 and the NCRP exposure guidelines. The interpolation of the figures from the above referenced document, page 18, supplement "A", shows a WORST case requirement of 15.0 meters height above ground level requirement for the radiation center of the proposed composite directional FM broadcast antenna. A total vertical effective radiated power of 12.0 kilowatts was used for this study and determination The radiation center of the FM broadcast antenna system is proposed to be at 51 meters above ground level (AGL), well within the requirement for the antenna as determined from the above referenced documents. The antenna specified for use is a Scala CL-FM/VRM/50N Vertically Polarized directional composite antenna.

Occupational compliance is certified by the reduction of operating power or the complete cessation of operation during such time maintenance personnel are no the antenna support structure. A transmitter "LOCK OUT" circuit has been installed to prevent accidental turn on of the transmission equipment during the time maintenance personnel are on the antenna support structure. The applicant, permittee or licensee will cooperate with other site users in order to comply with The FCC Guidelines on Human Exposure to Non-Ionizing RF Radiation.

In addition to the preceding the applicant, permittee or licensee, has by computer program, performed additional calculations to predict RF power density at the base of the antenna support structure. This program predicts a maximum power density of 21.0825 uW/cM2 at a distance of 84.25 meters from the base of the antenna support structure at a height of 2.0 meters above ground level. This is less than 10.6% percent of the allowable RF power density for uncontrolled areas under the FCC and ANSI/EPA Guidelines, being limited to: 1.00mW/cM2 for controlled areas and 200.0 microwatts/cM2 for uncontrolled areas. All other power density was calculated to be below this maximum predicted level for a distance of 0 to 1000 meters distance from the base of the antenna support structure at 2.0 meters above ground level.

The computer program employed for the RFR analysis in this engineering exhibit uses either the Near Field or Far Field method for the calculation of power density and was written by the Commission's O.E.T. staff. In this particular case the Far Field Method was used. The formula used by the computer program was derived from the FCC O.S.T. Bulletin #65, as revised to date.

The formula may be stated in the following manner:

E(V/m) = 1.6*221.72*SQRT(ERP)*
(element pattern factor)*(array factor) / DIST

H(A/m) = 1.6*0.588*SQRT(ERP)*
(element pattern factor)*(array factor) / DIST

Where:

ERP = effective radiated power in kilowatts, relative to a half wave dipole.

DIST = distance in meters from the antenna radiation center to the observation point in meters.

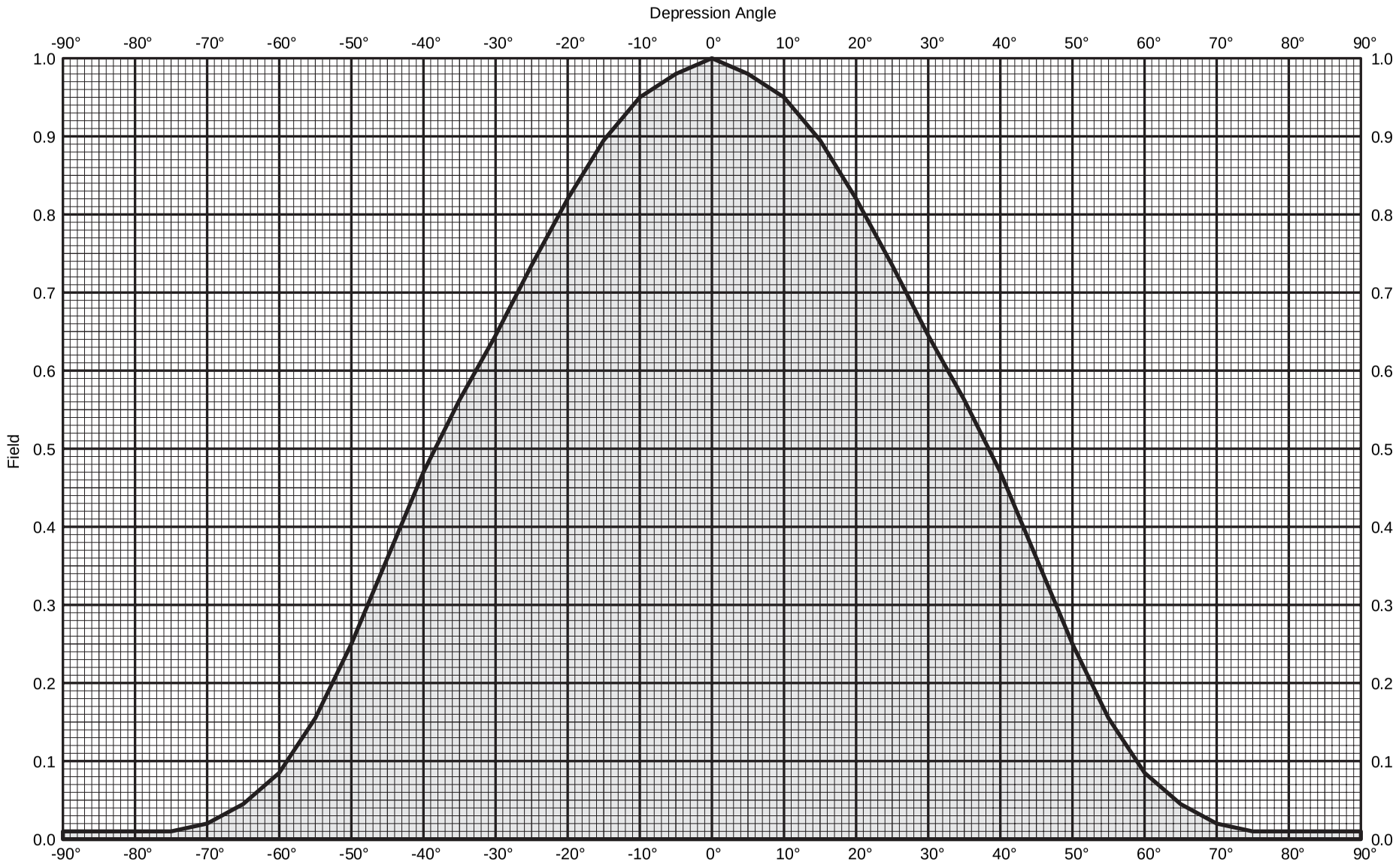
The 1.6 factor found in the ANSI/EPA formula and used above at the beginning of each equation takes into account possible contributions from ground reflections. The element pattern factor in a linearly interpolated relative field value at the appropriate depression angle below the horizon as taken directly from the EPA data. The array factor is computed at the appropriate depression angle using the number of antenna elements, when normalized to 1.0 in the main lobe. This array factor only applies to antenna arrays of point sources where each source has equal power distribution and phase, and are uniformly spaced. The element patterns themselves can be associated with particular antenna designs. As of May 1986 there were six (6) element types identified for FM antennas as listed in the ANSI/EPA data and FCC Bulletin #65. The EPA Type 1 Dipole element is used on the Scala CL-FM/VRM Antenna Type 1 is listed in the EPA data and was used for the calculations contained herein. There were two types listed for television, one for VHF and one for UHF.

There are no other sources of significant RFR on the proposed existing tower site.

The General Public will not have access to the site because the site wholly encompassed by seven foot high chain link fencing and a locked gate. The only access to the site is by the locked gate. Only authorized personnel have access to the locked gate. This will prevent General Public access to the actual site. There is no RFR level on the site that exceeds the General Public Uncontrolled Exposure Limit of 200.0 microwatts/cM2.

The applicant, permittee or licensee, will install and post RF Radiation Hazard Warning Signs in and around the site at approximately eye level for additional warning and safety.

The preceding assures compliance with the FCC, ANSI and NCRP requirements. Based on the preceding documents, tables, guidelines and calculations, the proposed operation of the main transmission facility for the proposed KBAC-FM1 FM Booster Station at Santa Fe, New Mexico, is in compliance with the FCC O.S.T. Bulletin #65 and the ANSI C-95.1-1992 and the NCRP RF Exposure Guidelines as amended to date. The applicant, permittee or licensee certifies compliance with the ANSI, NCRP and FCC Human Exposure Guidelines to Non-Ionizing RF Radiation. No new tower or antenna support structure construction is proposed, therefore no N.E.P.A., Section 106 analysis was performed and is not applicable.



Two CL-FM/VRM/50N Log-periodic Antennas

Oriented at 75 and 155 degrees

Gain: 6.2 dBd.

Frequency: 98.1 MHz

Vertical Polarization

Vertical Plane Pattern

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Vertical Plane Pattern

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
-90	0.010	-40.00	-33.80	0.00	-45	0.360	-8.87	-2.67	0.54
-89	0.010	-40.00	-33.80	0.00	-44	0.382	-8.36	-2.16	0.61
-88	0.010	-40.00	-33.80	0.00	-43	0.404	-7.87	-1.67	0.68
-87	0.010	-40.00	-33.80	0.00	-42	0.426	-7.41	-1.21	0.76
-86	0.010	-40.00	-33.80	0.00	-41	0.448	-6.97	-0.77	0.84
-85	0.010	-40.00	-33.80	0.00	-40	0.470	-6.56	-0.36	0.92
-84	0.010	-40.00	-33.80	0.00	-39	0.488	-6.22	-0.02	0.99
-83	0.010	-40.00	-33.80	0.00	-38	0.507	-5.90	0.30	1.07
-82	0.010	-40.00	-33.80	0.00	-37	0.525	-5.59	0.61	1.15
-81	0.010	-40.00	-33.80	0.00	-36	0.544	-5.29	0.91	1.23
-80	0.010	-40.00	-33.80	0.00	-35	0.562	-5.00	1.20	1.32
-79	0.010	-40.00	-33.80	0.00	-34	0.579	-4.75	1.45	1.40
-78	0.010	-40.00	-33.80	0.00	-33	0.595	-4.50	1.70	1.48
-77	0.010	-40.00	-33.80	0.00	-32	0.612	-4.26	1.94	1.56
-76	0.010	-40.00	-33.80	0.00	-31	0.628	-4.03	2.17	1.65
-75	0.010	-40.00	-33.80	0.00	-30	0.645	-3.81	2.39	1.73
-74	0.012	-38.42	-32.22	0.00	-29	0.663	-3.57	2.63	1.83
-73	0.014	-37.08	-30.88	0.00	-28	0.681	-3.34	2.86	1.93
-72	0.016	-35.92	-29.72	0.00	-27	0.699	-3.11	3.09	2.04
-71	0.018	-34.89	-28.69	0.00	-26	0.717	-2.89	3.31	2.14
-70	0.020	-33.98	-27.78	0.00	-25	0.735	-2.67	3.53	2.25
-69	0.025	-32.04	-25.84	0.00	-24	0.752	-2.48	3.72	2.36
-68	0.030	-30.46	-24.26	0.00	-23	0.769	-2.28	3.92	2.47
-67	0.035	-29.12	-22.92	0.01	-22	0.786	-2.09	4.11	2.58
-66	0.040	-27.96	-21.76	0.01	-21	0.803	-1.91	4.29	2.69
-65	0.045	-26.94	-20.74	0.01	-20	0.820	-1.72	4.48	2.80
-64	0.053	-25.51	-19.31	0.01	-19	0.835	-1.57	4.63	2.91
-63	0.061	-24.29	-18.09	0.02	-18	0.850	-1.41	4.79	3.01
-62	0.069	-23.22	-17.02	0.02	-17	0.865	-1.26	4.94	3.12
-61	0.077	-22.27	-16.07	0.02	-16	0.880	-1.11	5.09	3.23
-60	0.085	-21.41	-15.21	0.03	-15	0.895	-0.96	5.24	3.34
-59	0.099	-20.09	-13.89	0.04	-14	0.906	-0.86	5.34	3.42
-58	0.113	-18.94	-12.74	0.05	-13	0.917	-0.75	5.45	3.51
-57	0.127	-17.92	-11.72	0.07	-12	0.928	-0.65	5.55	3.59
-56	0.141	-17.02	-10.82	0.08	-11	0.939	-0.55	5.65	3.68
-55	0.155	-16.19	-9.99	0.10	-10	0.950	-0.45	5.75	3.76
-54	0.174	-15.19	-8.99	0.13	-9	0.956	-0.39	5.81	3.81
-53	0.193	-14.29	-8.09	0.16	-8	0.962	-0.34	5.86	3.86
-52	0.212	-13.47	-7.27	0.19	-7	0.968	-0.28	5.92	3.91
-51	0.231	-12.73	-6.53	0.22	-6	0.974	-0.23	5.97	3.95
-50	0.250	-12.04	-5.84	0.26	-5	0.980	-0.18	6.02	4.00
-49	0.272	-11.31	-5.11	0.31	-4	0.984	-0.14	6.06	4.04
-48	0.294	-10.63	-4.43	0.36	-3	0.988	-0.10	6.10	4.07
-47	0.316	-10.01	-3.81	0.42	-2	0.992	-0.07	6.13	4.10
-46	0.338	-9.42	-3.22	0.48	-1	0.996	-0.03	6.17	4.14
					0	1.000	0.00	6.20	4.17

KATHREIN
SCALA DIVISION

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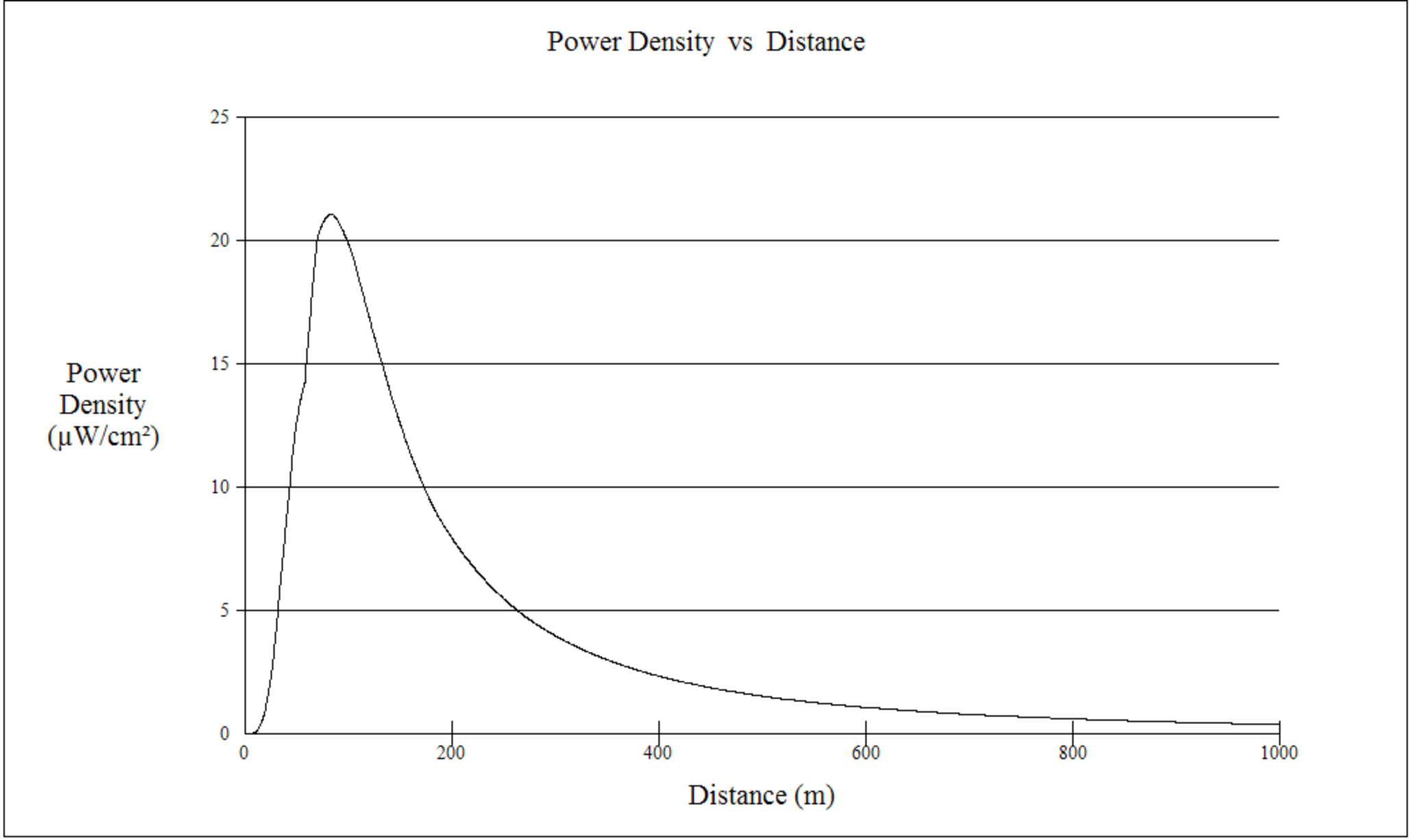
Oriented at 75 and 155 degrees
Gain: 6.2 dBd.
Frequency: 98.1 MHz

Vertical Polarization
Vertical Plane Pattern

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
0	1.000	0.00	6.20	4.17	45	0.360	-8.87	-2.67	0.54
1	0.996	-0.03	6.17	4.14	46	0.338	-9.42	-3.22	0.48
2	0.992	-0.07	6.13	4.10	47	0.316	-10.01	-3.81	0.42
3	0.988	-0.10	6.10	4.07	48	0.294	-10.63	-4.43	0.36
4	0.984	-0.14	6.06	4.04	49	0.272	-11.31	-5.11	0.31
5	0.980	-0.18	6.02	4.00	50	0.250	-12.04	-5.84	0.26
6	0.974	-0.23	5.97	3.95	51	0.231	-12.73	-6.53	0.22
7	0.968	-0.28	5.92	3.91	52	0.212	-13.47	-7.27	0.19
8	0.962	-0.34	5.86	3.86	53	0.193	-14.29	-8.09	0.16
9	0.956	-0.39	5.81	3.81	54	0.174	-15.19	-8.99	0.13
10	0.950	-0.45	5.75	3.76	55	0.155	-16.19	-9.99	0.10
11	0.939	-0.55	5.65	3.68	56	0.141	-17.02	-10.82	0.08
12	0.928	-0.65	5.55	3.59	57	0.127	-17.92	-11.72	0.07
13	0.917	-0.75	5.45	3.51	58	0.113	-18.94	-12.74	0.05
14	0.906	-0.86	5.34	3.42	59	0.099	-20.09	-13.89	0.04
15	0.895	-0.96	5.24	3.34	60	0.085	-21.41	-15.21	0.03
16	0.880	-1.11	5.09	3.23	61	0.077	-22.27	-16.07	0.02
17	0.865	-1.26	4.94	3.12	62	0.069	-23.22	-17.02	0.02
18	0.850	-1.41	4.79	3.01	63	0.061	-24.29	-18.09	0.02
19	0.835	-1.57	4.63	2.91	64	0.053	-25.51	-19.31	0.01
20	0.820	-1.72	4.48	2.80	65	0.045	-26.94	-20.74	0.01
21	0.803	-1.91	4.29	2.69	66	0.040	-27.96	-21.76	0.01
22	0.786	-2.09	4.11	2.58	67	0.035	-29.12	-22.92	0.01
23	0.769	-2.28	3.92	2.47	68	0.030	-30.46	-24.26	0.00
24	0.752	-2.48	3.72	2.36	69	0.025	-32.04	-25.84	0.00
25	0.735	-2.67	3.53	2.25	70	0.020	-33.98	-27.78	0.00
26	0.717	-2.89	3.31	2.14	71	0.018	-34.89	-28.69	0.00
27	0.699	-3.11	3.09	2.04	72	0.016	-35.92	-29.72	0.00
28	0.681	-3.34	2.86	1.93	73	0.014	-37.08	-30.88	0.00
29	0.663	-3.57	2.63	1.83	74	0.012	-38.42	-32.22	0.00
30	0.645	-3.81	2.39	1.73	75	0.010	-40.00	-33.80	0.00
31	0.628	-4.03	2.17	1.65	76	0.010	-40.00	-33.80	0.00
32	0.612	-4.26	1.94	1.56	77	0.010	-40.00	-33.80	0.00
33	0.595	-4.50	1.70	1.48	78	0.010	-40.00	-33.80	0.00
34	0.579	-4.75	1.45	1.40	79	0.010	-40.00	-33.80	0.00
35	0.562	-5.00	1.20	1.32	80	0.010	-40.00	-33.80	0.00
36	0.544	-5.29	0.91	1.23	81	0.010	-40.00	-33.80	0.00
37	0.525	-5.59	0.61	1.15	82	0.010	-40.00	-33.80	0.00
38	0.507	-5.90	0.30	1.07	83	0.010	-40.00	-33.80	0.00
39	0.488	-6.22	-0.02	0.99	84	0.010	-40.00	-33.80	0.00
40	0.470	-6.56	-0.36	0.92	85	0.010	-40.00	-33.80	0.00
41	0.448	-6.97	-0.77	0.84	86	0.010	-40.00	-33.80	0.00
42	0.426	-7.41	-1.21	0.76	87	0.010	-40.00	-33.80	0.00
43	0.404	-7.87	-1.67	0.68	88	0.010	-40.00	-33.80	0.00
44	0.382	-8.36	-2.16	0.61	89	0.010	-40.00	-33.80	0.00
					90	0.010	-40.00	-33.80	0.00



Office of Engineering and Technology

Distance (m): 1000

Antenna Type: Phelps-Dodge "Ring Stub" or Dipole (EF

Horizontal ERP (W): 0

Vertical ERP (W): 12000

Number of Elements: 8

Element Spacing: 125