

ENGINEERING STATEMENT
RE MINOR SITE CHANGE APPLICATION
KBLL-FM, HELENA, MONTANA
CH.258C1 (99.5 MHZ) 15 KW H&V 589 METERS HAAT

JULY 2004

COHEN, DIPPELL AND EVERIST, P.C.
CONSULTING ENGINEERS
RADIO AND TELEVISION
WASHINGTON, D.C.

COHEN, DIPPELL AND EVERIST, P. C.

City of Washington)
) ss
District of Columbia)

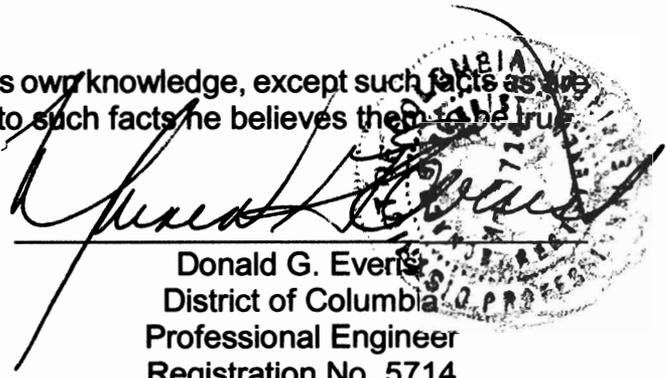
Donald G. Everist, being duly sworn upon his oath, deposes and states that:

He is a graduate electrical engineer, a Registered Professional Engineer in the District of Columbia, and is President, Secretary and Treasurer of Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio - Television, with offices at 1300 L Street, N.W., Suite 1100, Washington, D.C. 20005;

That his qualifications are a matter of record in the Federal Communications Commission;

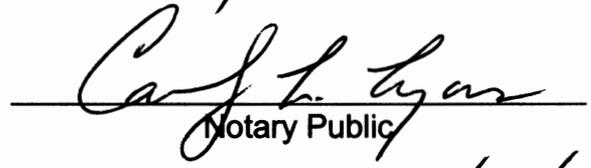
That the attached engineering report was prepared by him or under his supervision and direction and

That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts he believes them to be true.


Donald G. Everist
District of Columbia
Professional Engineer
Registration No. 5714

Subscribed and sworn to before me this 16th day of July, 2004.




Notary Public

My Commission Expires: 2/28/2008

Introduction

This engineering report has been prepared on behalf of Holter Broadcasting Corporation in support of its minor change application to change transmitter site from the currently licensed site for KBLL-FM, Helena, Montana. It is proposed to move 23.6 km from the licensed site to a new tower to be erected at the existing KZMT(FM) site. The FM operation is proposed on Channel 258C1 (99.5 MHz) with 15 kW (H&V) maximum effective radiated power ("ERP") and 589 meters height above average terrain ("HAAT"). Currently, KBLL-FM is authorized to operate as a Class C1 facility. An ERP of 15 kW at a HAAT of 589 meters will retain that C1 designation.

Exhibits requested by Section III-B of the FCC Form 301 are included in this engineering report.

Antenna Site

The proposed four-bay FM antenna will be side-mounted on a new tower (see Exhibit E-1). The existing antenna site is located 16 miles northwest of Helena, Montana.

The geographic coordinates of the proposed antenna site are as follows:

North Latitude: 46° 44' 51.8"

West Longitude: 112° 19' 47.6"

NAD-27

The following tabulation shows the pertinent data for the proposed installation.

Equipment Data

| | |
|--------------|--|
| Transmitter: | Type-approved |
| Antenna: | ERI SHPX or equivalent 4-bay, circularly polarized, antenna (see Exhibits E-2) |

Power Data

| | | |
|--------------------------------|-------|----------|
| Effective Radiated Power (H&V) | 15 kW | 11.8 dBk |
|--------------------------------|-------|----------|

Elevation Data

| | |
|---|--------------------------------|
| Elevation of the site above mean sea level | 2232.6 meters (7324.8 feet) |
| Elevation of the top of supporting structure above ground with appurtenance | 57.9 meters (190 feet) |
| Elevation of the top of supporting structure above mean sea level with appurtenance | 2290.5 meters (7514.8 feet) |
| Height of radiation center above ground (H&V) | 27.5 meters (90.2 feet) |
| Height of radiation center above mean sea level (H&V) | 2260.1 meters (7415 feet) |
| Height of radiation center above average terrain (H&V) | 589 meters |

Allocation Situation

The attached Table I shows the distances to the pertinent co-channel and adjacent channel stations and allotments from the proposed antenna site. As indicated, all distances comply with the minimum separation requirements listed under Section 73.207 of the Commission's Rules. Exhibit E-2 provides a map which reflects the allocation situation.

Topographic Data

The average elevation data between 3.2 to 16.1 km used for the prediction of coverage contours are based on the NGDC 3-second terrain data base.

Contour Data

The distance to the predicted 70 dBu (3.16 mV/m) and 60 dBu (1.0 mV/m) contours were determined from Figure 1, Section 73.333 of the Commission's Rules and are shown on the attached Table II. The predicted coverage contours are shown on Exhibit E-3.

Main Studio Location

The main studio will be located inside the predicted 3.16 mV/m contour.

Other Radio Stations

The proposed FM antenna will be side-mounted on a new tower. Station KZMT(FM), 101.1 MHz will also operate from this new tower. There are no TV stations located within 100 meters of the proposed FM site and no AM broadcast stations located within 3.2 km of the proposed site. KMTX-FM operates from an adjacent tower located approximately 30 meters in distance.

In case of problem to any authorized non-broadcast facilities of radio receivers, the licensee will take the necessary remedial steps to resolve the intermodulation interference.

Blanketing Contour

The blanketing contour (115 dBu) based on an ERP of 15 kW will extend 1.53 km from the proposed site. The area is essentially mountainous terrain and no problems are anticipated. The licensee will comply with all the pertinent requirements of Section 73.318 of the Commission's Rules.

Environmental Statement

An evaluation has been made to determine compliance with the Commission's specified standards for human exposure to radio frequency field levels ("RFF") as set forth in the OET Bulletin 65 (Edition 97-01). For a combined effective radiated power of 30 kW, a radiation center of 27.5 meters above ground, and a relative downward field of 0.26, the proposed FM operation would have a maximum of 105 microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$) RFF level at 2 meters above the base of the tower. The FCC standard for the FM band is 200 $\mu\text{W}/\text{cm}^2$ for an uncontrolled environment and 1000 $\mu\text{W}/\text{cm}^2$ for a controlled environment.

The RFF study will consider the following stations within 100 meters of the proposed site:

Station

| | | |
|----------|---------------|--------------|
| KBLL-FM | Channel 258C1 | proposed |
| KZMT(FM) | Channel 266C | same tower |
| KMTX-FM | Channel 287C | 100 ft. away |

The RFF contribution of each station will be calculated using the following basic formula:

$$S = \frac{33.4(F^2) \text{ Total ERP}}{R^2}$$

where:

S = power density in $\mu\text{W}/\text{cm}^2$

F = relative field factor

Total ERP = ERP Horizontal Polarization + ERP Vertical Polarization

R = RCAGL - 2 meters

ERP = RMS ERP in watts for FM Stations

KBLL-FM FM Facility (proposed)

| | | |
|---------------|-------------------|-------------|
| Channel 258C1 | Freq: | 99.5 MHz |
| | ERP = | 15 kW |
| | Polarization = | Circular |
| | RCAGL -2 meters = | 25.5 meters |

$$S = \frac{33.4 (F^2) \text{ Tot ERP}}{R^2}$$

Tot ERP = 30 kW (horizontal and vertical)
R = 25.5 meters
F = 0.26 (from manufacturer's data)

$$S = < 105 \mu\text{W}/\text{cm}^2$$

Therefore, KBLL-FM contributes less than 105 $\mu\text{W}/\text{cm}^2$ at 2 meters above the ground.

The limit for an uncontrolled environment is 200 $\mu\text{W}/\text{cm}^2$ for the controlled environment is 1000 $\mu\text{W}/\text{cm}^2$ for the FM band range.

KBLL-FM contributes less than 52.5% RFF level for an uncontrolled environment two meters above the ground or 10.5% RFF level for a controlled environment two meters above ground

KZMT(FM) FM Facility (proposed)

| | | |
|--------------|-------------------|-------------|
| Channel 266C | Freq: | 101.1 MHz |
| | ERP = | 95 kW |
| | Polarization = | Circular |
| | RCAGL -2 meters = | 43.7 meters |

$$S = \frac{33.4 (F^2) \text{ Tot ERP}}{R^2}$$

Tot ERP = 190 kW (horizontal and vertical)
R = 19.4 meters
F = 0.2 (7-bay Jampro)—see Exhibits E-5 through E-5b

$$S = < 140 \mu\text{W}/\text{cm}^2$$

Therefore, KZMT(FM) contributes less than 140 $\mu\text{W}/\text{cm}^2$ at 2 meters above the ground.

The limit for an uncontrolled environment is 200 $\mu\text{W}/\text{cm}^2$ for a controlled is 1000 $\mu\text{W}/\text{cm}^2$ for the FM band range.

KZMT(FM) contributes less than 70% RFF level for an uncontrolled environment two meters above the ground or 14 $\mu\text{W}/\text{cm}^2$ for a controlled environment two meters above ground.

KMTX-FM FM Facility (100 feet/30.5 meters away)

| | | |
|--------------|-------------------|--------------------------------|
| Channel 287C | Freq: | 105.3 MHz |
| | ERP = | 87 kW (H), 58 kW (V) |
| | Polarization = | Horizontal, Vertical |
| | RCAGL -2 meters = | 44.2 meters (to proposed site) |

$$S = \frac{33.4 (F^2) \text{ Tot ERP}}{R^2} \quad \text{Tot ERP} = 145 \text{ kW (horizontal and vertical)}$$

$$R = 44.2 \text{ meters}$$

$$F = 0.09, \text{ see Exhibit E-6 and 6a}$$

$$S = < 20.1 \mu\text{W}/\text{cm}^2$$

Therefore, KMTX-FM contributes less than 20.1 $\mu\text{W}/\text{cm}^2$ at 2 meters above the ground at the proposed site.

The limit for an uncontrolled environment is 200 $\mu\text{W}/\text{cm}^2$ and for a controlled environment is 1000 $\mu\text{W}/\text{cm}^2$ for the FM band range.

KMTX-FM contributes less than 10.1% RFF level for an uncontrolled environment two meters above the ground at the proposed site or approximately 2% RFF level for a controlled environment two meters above ground at the proposed site.

The licensee indicates that access to the site is approximately 5 miles from a main road. The road is not regularly traveled. Therefore, it is believed this site qualifies under Situation B of OET Bulletin 65 as discussed below.

From Pages 77 and 78, guidance for such a situation is provided from the FCC publication entitled, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields, OET Bulletin 65, Edition 97-01, August 1997", "Appendix B, Summary of 1986 Mass Media Bureau, Public Notice on RF Compliance".

A portion is abstracted as follows:

Situations

(B) High RF levels are produced at ground level in a remote area not likely to be visited by the public.

- If the area of concern is marked by appropriate warning signs, an applicant may assume that there is no significant effect on the human environment with regard to exposure of the general public. It is recommended that fences also be used where feasible.

Therefore, members of the public and personnel working around the proposed FM facility would not be exposed to RF Radiation levels exceeding the FCC standards since the licensee will post signs around the tower property. With respect to work performed on the tower, the licensee will establish procedure to ensure that workers are not exposed to RF radiation levels above those prescribed by FCC, by reducing or turning off the power, as appropriate.

FCC Rule, Section 1.1307

An environmental assessment (“EA”) is categorically excluded under Section 1.1306 of the FCC Rules and Regulations since the licensee indicates:

- (a)(1) The existing site is not located in an officially designated wilderness area.
- (a)(2) The existing site is not located in an officially designated wildlife preserve.
- (a)(3) The existing site will not affect any listed threatened or endangered species or habitats.
- (a)(3)(ii) The existing site will not jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats.
- (a)(4) The existing site will not affect any known districts, sites, buildings, structures, or objects significant in American history, architecture, archaeology, engineering, or culture.

- (a)(5) The existing site is not located near any known Indian religious sites.
- (a)(6) The existing site is not located in a flood plain.
- (a)(7) The creation of a new self supporting tower will not involve a significant change in surface features of the ground in the vicinity of the tower.
- (a)(8) Tower painting and lighting is not required by the FAA.
- (b) Workers and the general public will not be subjected to RFF levels in excess of the current FCC guidelines. Authorized personnel climbing the tower will not be exposed to RFF levels in excess of the FCC guidelines listed OET Bulletin No. 65, dated August 1997.

ABOVE GROUND

ABOVE MEAN SEA LEVEL

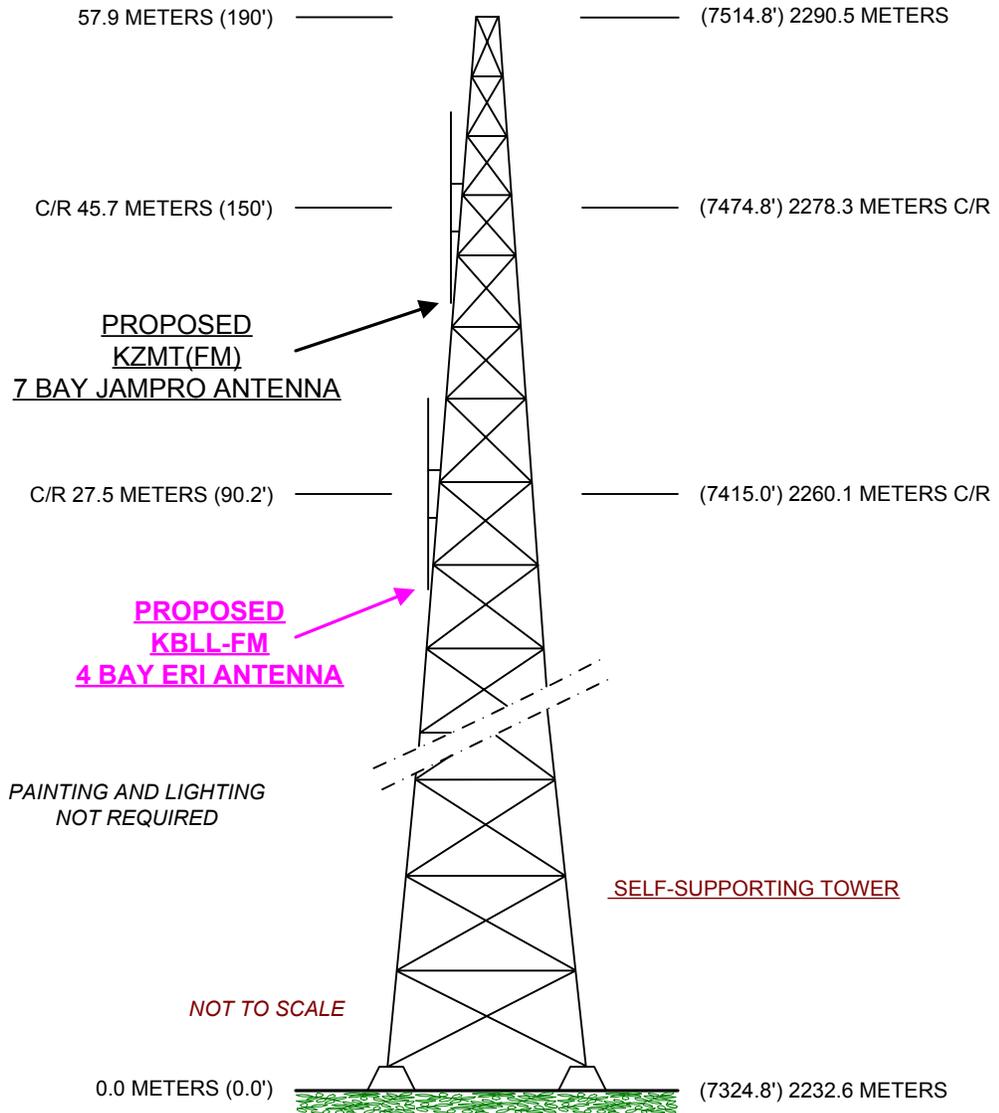


EXHIBIT E-1
VERTICAL SKETCH
FOR THE PROPOSED FM OPERATION OF
KBLL-FM, HELENA, MONTANA
JULY 2004

ELECTRONICS RESEARCH, INC.
7777 GARDNER ROAD
CHANDLER, IN. 47610

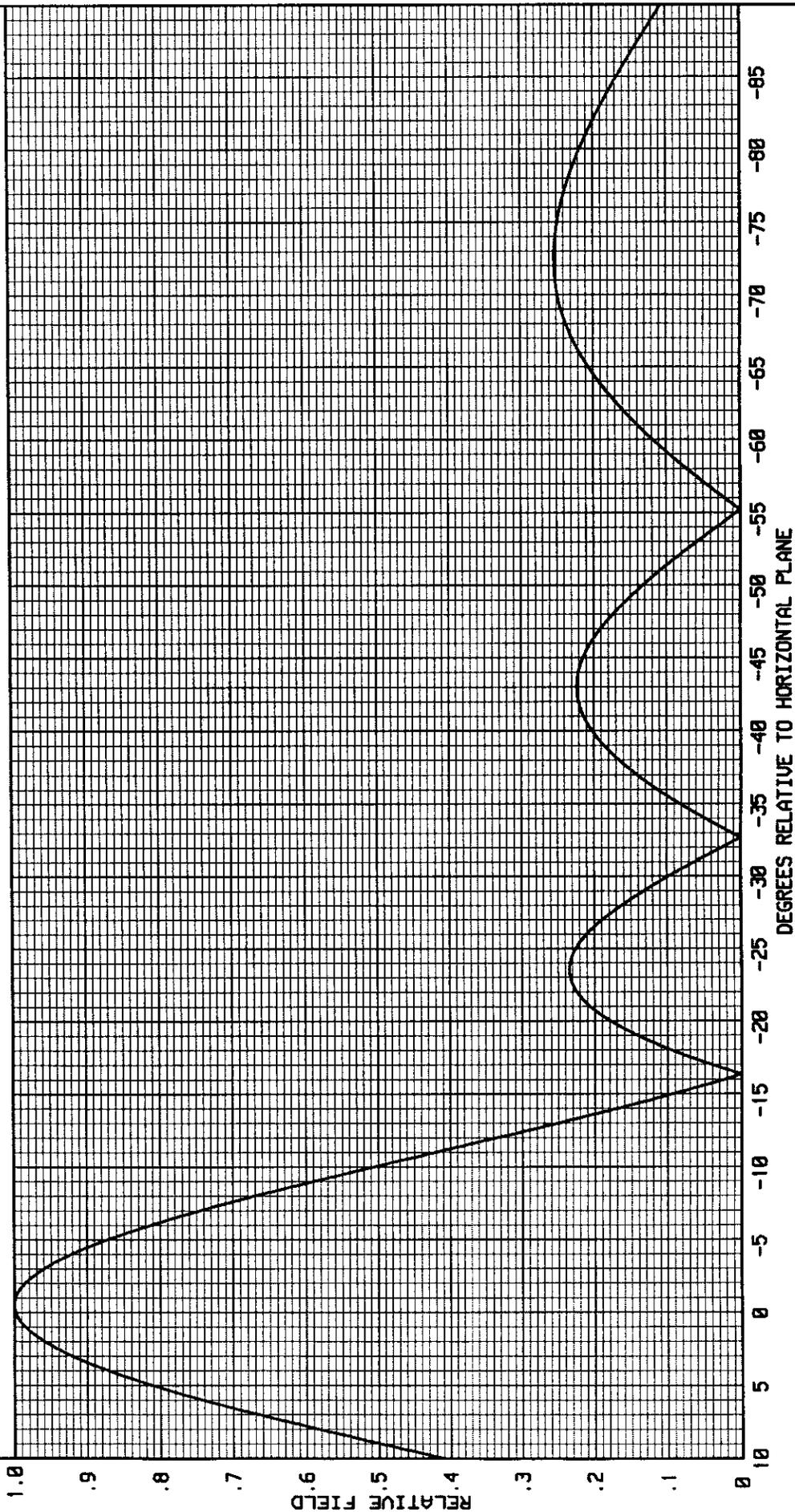
-----THEORETICAL-----
VERTICAL PLANE RELATIVE FIELD

MAY 26, 2004
ELEMENT SPACING:
.926 WAVELENGTH

- 4 ERI TYPE SHP, SHPX, LP, OR LPX ELEMENTS
- .5 DEGREE(S) ELECTRICAL BEAM TILT
- 0 PERCENT FIRST NULL FILL
- 0 PERCENT SECOND NULL FILL

FIGURE 400

POWER GAIN IS 2.134 IN THE HORIZONTAL PLANE(2.141 IN THE MAX.)



Cohen, Dippell and Everist, P.C.

TABLE I
ALLOCATION SITUATION
FOR KBLL-FM, HELENA, MONTANA
CHANNEL 258C1 15 KW 589 METERS HAAT
JULY 2004

N 46° 44' 51.8"
W 112° 19' 47.6"
(NAD-27)

| <u>Call</u> | <u>ERP</u> kW | <u>HAAT</u> meters | <u>Channel</u> | <u>Frequency</u> MHz | <u>Coordinate</u> s | <u>City/State</u> | <u>Distance</u> | |
|-----------------|------------------|-----------------------|----------------|-------------------------|-------------------------|-------------------|---------------------|-----------------------|
| | | | | | | | <u>Actual</u> km | <u>Required</u> km |
| KBLL-FM Lic | 30 | 241 | 258C1 | 99.5 | 46°46'12" 112°01'22" | Helena, MT | 23.6 | --- |
| KAAK(FM) Lic | 100 | 147 | 255C1 | 98.9 | 47°32'23" 111°17'06" | Great Falls, MT | 118.5 | 82 |
| KZOQ(FM) | 13.5 | 641 | 261C1 | 100.1 | 46°48'09" 113°58'21" | Missoula, MT | 125.6 | 82 |

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TABLE II
COMPUTED COVERAGE DATA
FOR THE PROPOSED FM OPERATION OF
KBLL-FM, HELENA, MONTANA
CHANNEL 258C1 15 KW ERP 589 METERS HAAT
JULY 2004

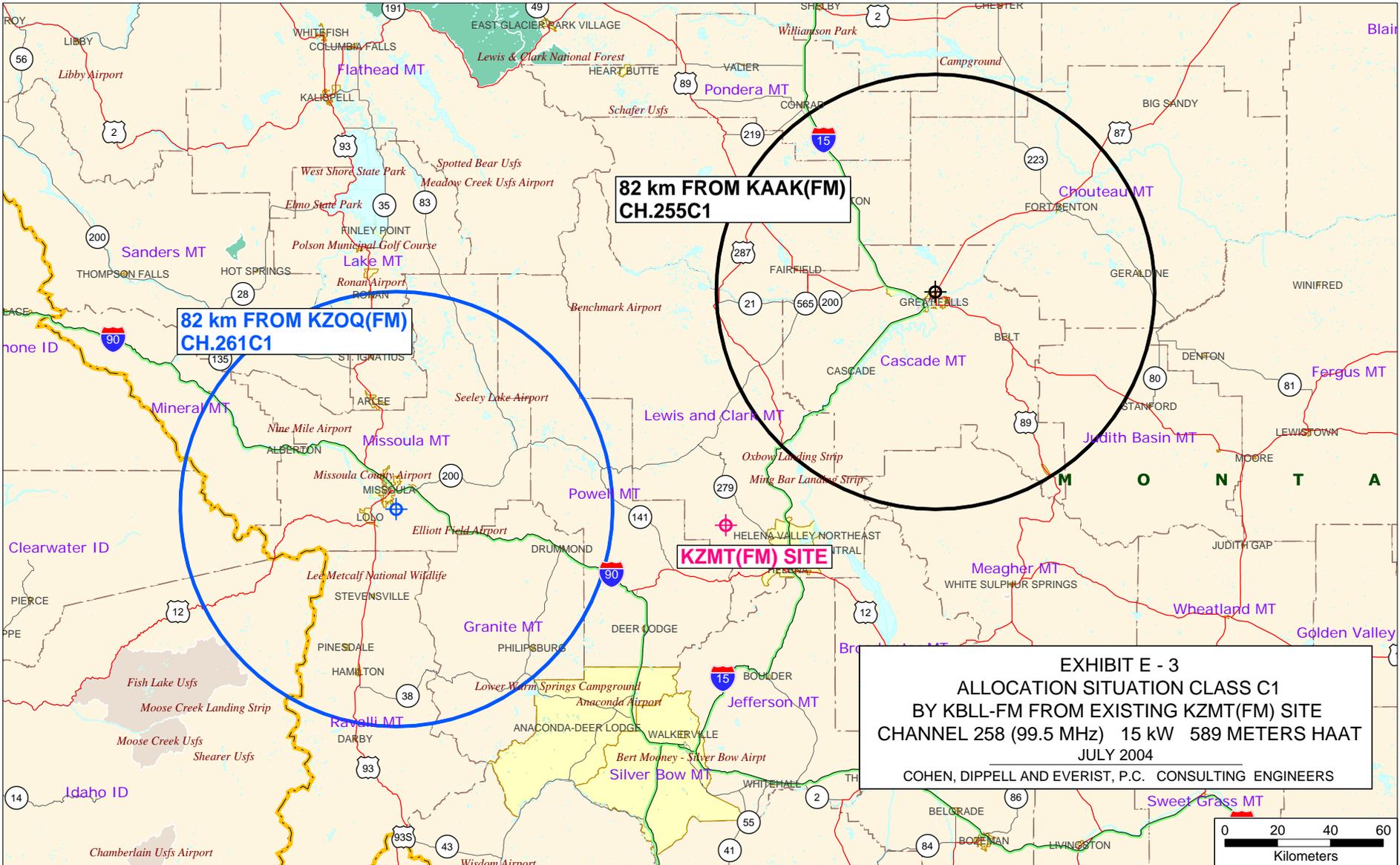
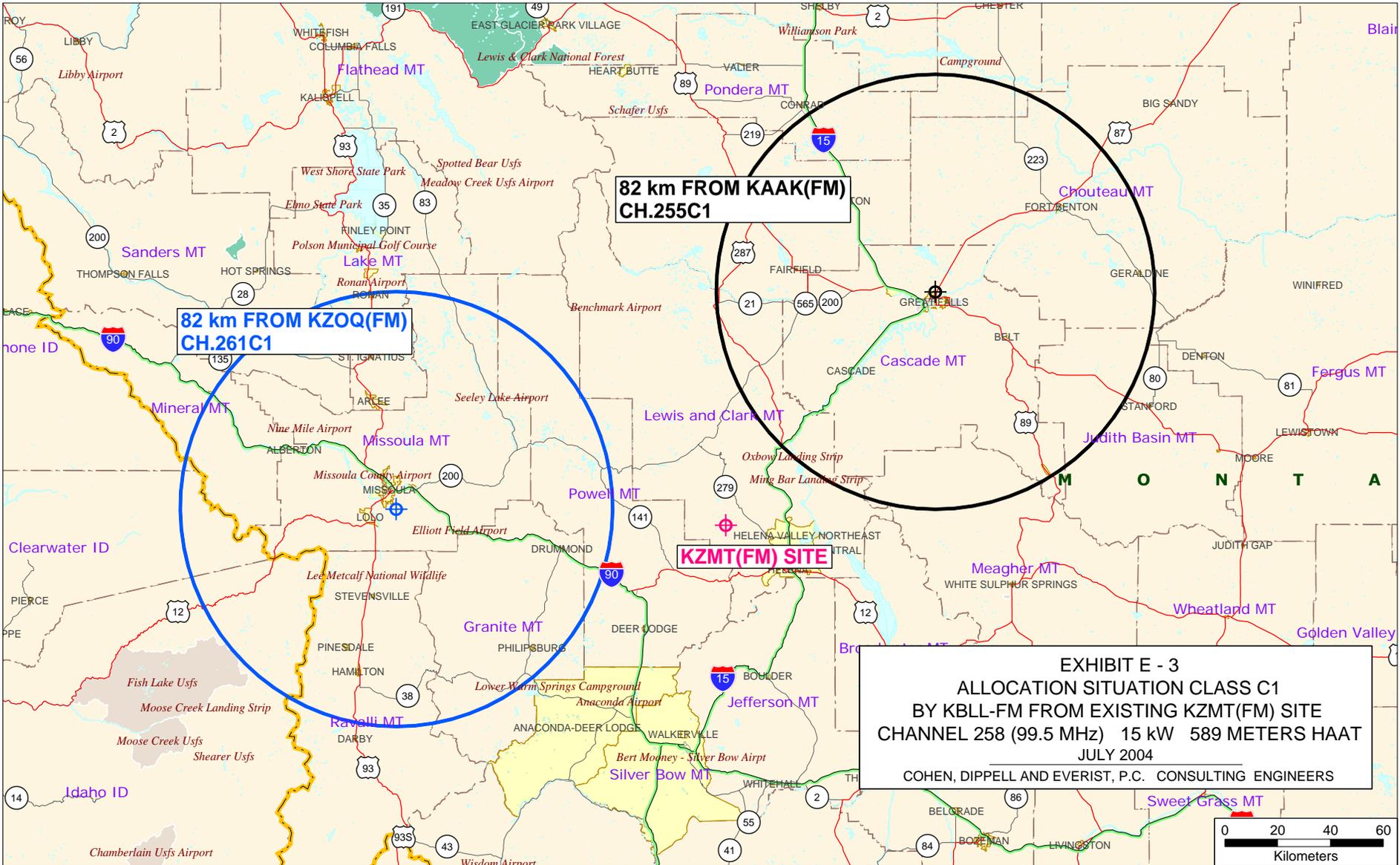
| <u>Azimuth</u> N ° E, T | <u>Average*</u> <u>Elevation</u> <u>3.2 to 16.1 km</u> <u>meters</u> | <u>HAAT*</u> <u>meters</u> | <u>Depression</u> <u>Angle</u> | <u>ERP</u> <u>kW</u> | <u>Distance to Contour</u> | |
|----------------------------|---|-------------------------------|-----------------------------------|-------------------------|----------------------------|----------------------------|
| | | | | | <u>70 dBu</u> <u>km</u> | <u>60 dBu</u> <u>km</u> |
| 0 | 1,506.2 | 754 | 0.761 | 15 | 53.8 | 77.7 |
| 45 | 1,419.2 | 841 | 0.803 | 15 | 56.2 | 80.3 |
| 90 | 1,421.2 | 839 | 0.802 | 15 | 56.1 | 80.3 |
| 135 | 1,667.7 | 592 | 0.674 | 15 | 48.2 | 71.7 |
| 180 | 1,832.3 | 428 | 0.573 | 15 | 40.5 | 61.8 |
| 225 | 1,900.1 | 360 | 0.526 | 15 | 37.5 | 57.8 |
| 270 | 1,890.6 | 369 | 0.532 | 15 | 37.9 | 58.4 |
| 315 | 1,730.0 | 530 | 0.638 | 15 | 45.4 | 68.5 |
| Average | 1,670.9 | | | | | |

*Elevation data based on 3-second NGDC data.

Channel 258C1 (95.5 MHz)
Average Elevation 3.2 to 16.1 km 1670.9 meters AMSL
Center of Radiation 2260.1 meters AMSL
Antenna Height Above Average Terrain 589 meters
Effective Radiated Power 15 kW (11.76 dBk) Max.

North Latitude: 46° 44' 51.8"
West Longitude: 112° 19' 47".6

(NAD-27)



COHEN, DIPPELL AND EVERIST, P.C. Consulting Engineers Washington, D.C.

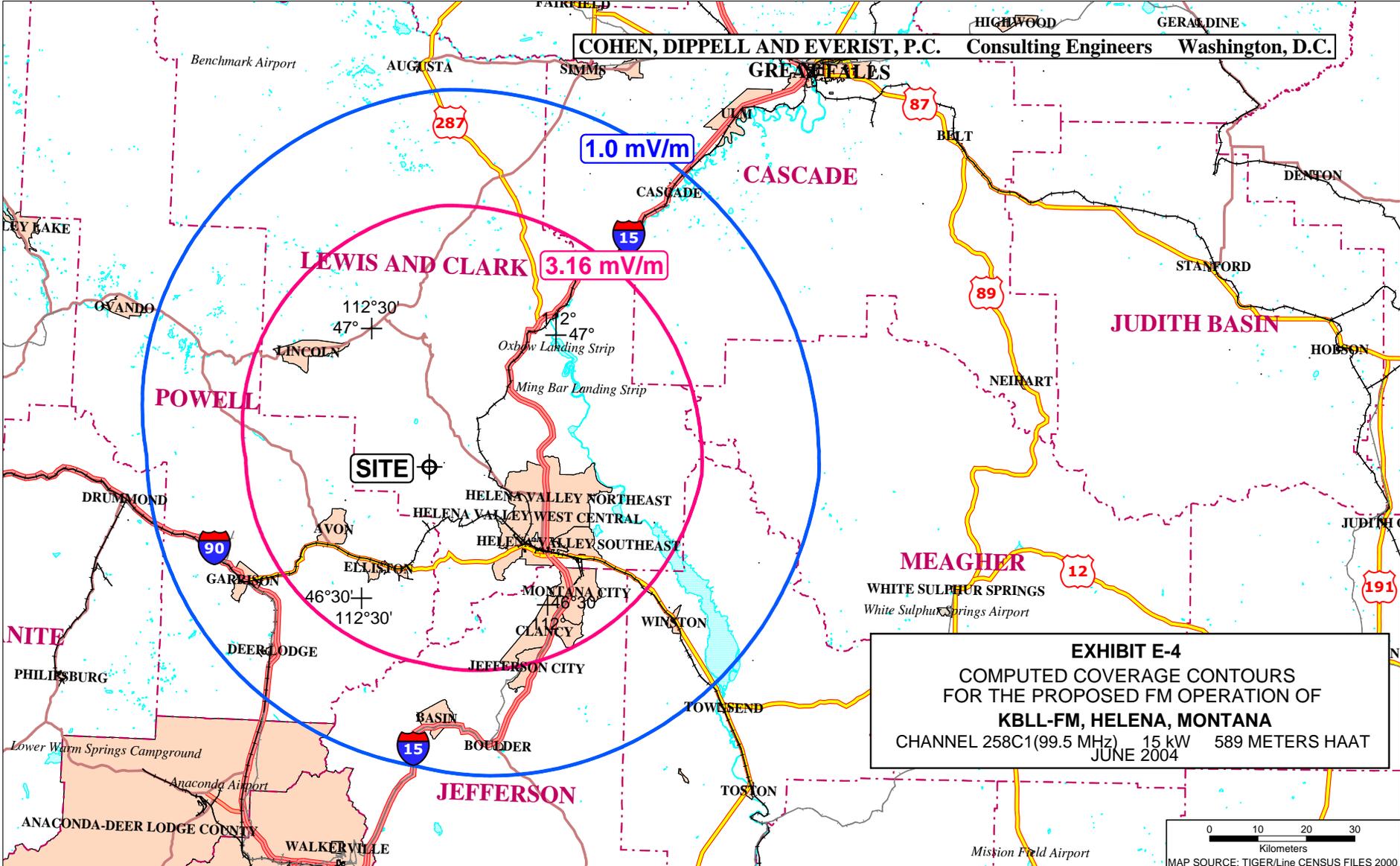


EXHIBIT E-4
COMPUTED COVERAGE CONTOURS
FOR THE PROPOSED FM OPERATION OF
KBLL-FM, HELENA, MONTANA
CHANNEL 258C1(99.5 MHz) 15 kW 589 METERS HAAT
JUNE 2004

0 10 20 30
Kilometers
MAP SOURCE: TIGER/Line CENSUS FILES 2000



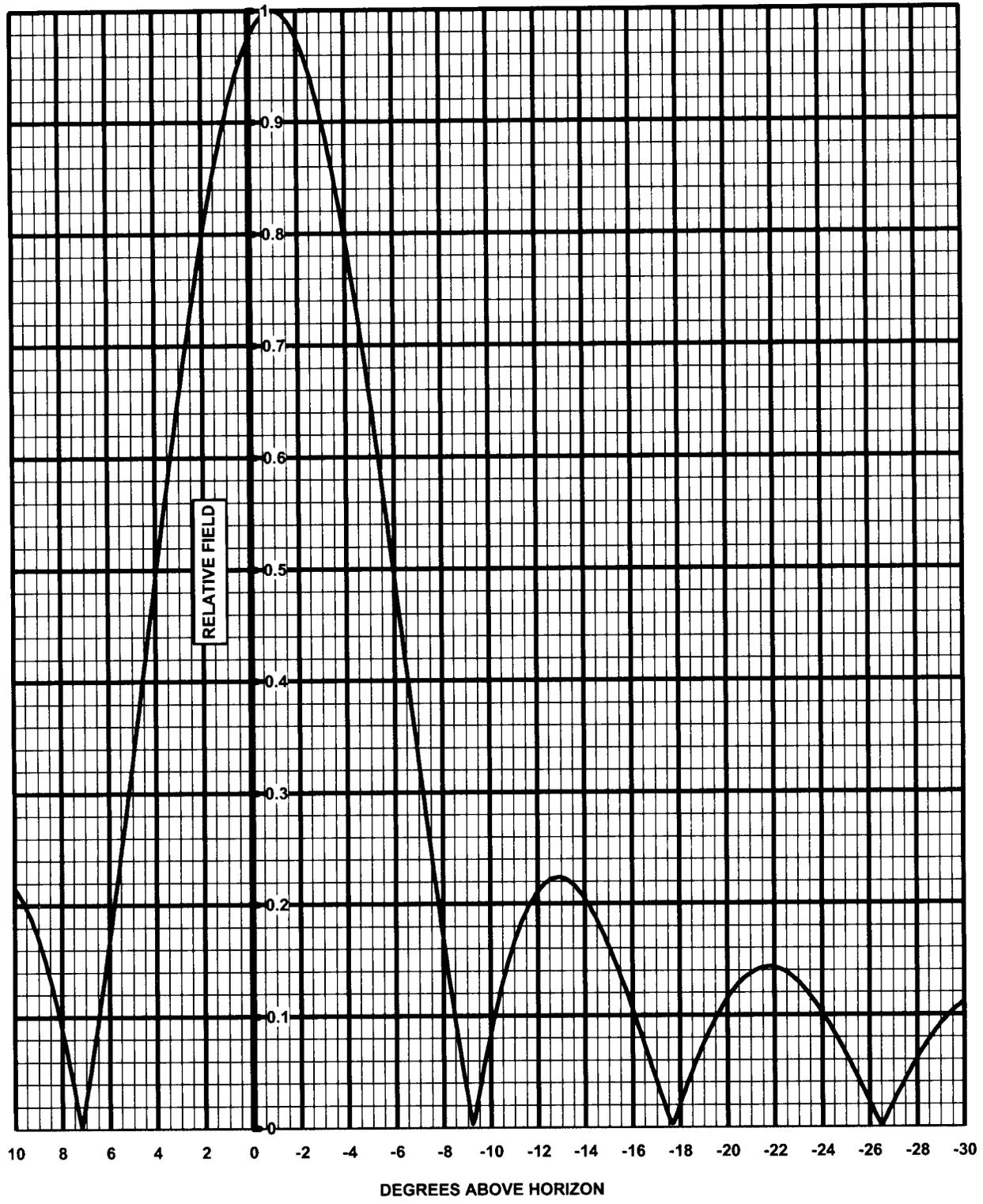
JSCP-7R, 101.1 MHz, B.T. -1°
TABULATION

RELATIVE FIELD VS ELEVATION ANGLE

| <u>ELEVATION</u> <u>ANGLE</u> | <u>RELATIVE</u> <u>FIELD</u> | <u>ELEVATION</u> <u>ANGLE</u> | <u>RELATIVE</u> <u>FIELD</u> | <u>ELEVATION</u> <u>ANGLE</u> | <u>RELATIVE</u> <u>FIELD</u> |
|----------------------------------|---------------------------------|----------------------------------|---------------------------------|----------------------------------|---------------------------------|
| 10 | 0.215 | -26 | 0.021 | -61 | 0.000 |
| 9 | 0.170 | -27 | 0.022 | -62 | 0.027 |
| 8 | 0.089 | -28 | 0.061 | -63 | 0.053 |
| 7 | 0.026 | -29 | 0.092 | -64 | 0.080 |
| 6 | 0.168 | -30 | 0.111 | -65 | 0.102 |
| 5 | 0.328 | -31 | 0.118 | -66 | 0.125 |
| 4 | 0.495 | -32 | 0.112 | -67 | 0.145 |
| 3 | 0.655 | -33 | 0.095 | -68 | 0.159 |
| 2 | 0.796 | -34 | 0.069 | -69 | 0.174 |
| 1 | 0.906 | -35 | 0.037 | -70 | 0.187 |
| 0 | 0.976 | -36 | 0.003 | -71 | 0.191 |
| -1 | 1.000 | -37 | 0.031 | -72 | 0.199 |
| -2 | 0.975 | -38 | 0.061 | -73 | 0.197 |
| -3 | 0.905 | -39 | 0.085 | -74 | 0.200 |
| -4 | 0.794 | -40 | 0.102 | -75 | 0.201 |
| -5 | 0.653 | -41 | 0.110 | -76 | 0.192 |
| -6 | 0.493 | -42 | 0.109 | -77 | 0.189 |
| -7 | 0.328 | -43 | 0.098 | -78 | 0.185 |
| -8 | 0.169 | -44 | 0.081 | -79 | 0.171 |
| -9 | 0.028 | -45 | 0.058 | -80 | 0.165 |
| -10 | 0.085 | -46 | 0.031 | -81 | 0.158 |
| -11 | 0.166 | -47 | 0.001 | -82 | 0.151 |
| -12 | 0.211 | -48 | 0.029 | -83 | 0.143 |
| -13 | 0.224 | -49 | 0.057 | -84 | 0.144 |
| -14 | 0.204 | -50 | 0.083 | -85 | 0.135 |
| -15 | 0.162 | -51 | 0.102 | -86 | 0.126 |
| -16 | 0.105 | -52 | 0.117 | -87 | 0.117 |
| -17 | 0.041 | -53 | 0.123 | -88 | 0.117 |
| -18 | 0.021 | -54 | 0.126 | -89 | 0.107 |
| -19 | 0.075 | -55 | 0.120 | -90 | 0.098 |
| -20 | 0.115 | -56 | 0.110 | | |
| -21 | 0.137 | -57 | 0.093 | | |
| -22 | 0.143 | -58 | 0.075 | | |
| -23 | 0.129 | -59 | 0.051 | | |
| -24 | 0.102 | -60 | 0.026 | | |
| -25 | 0.065 | | | | |

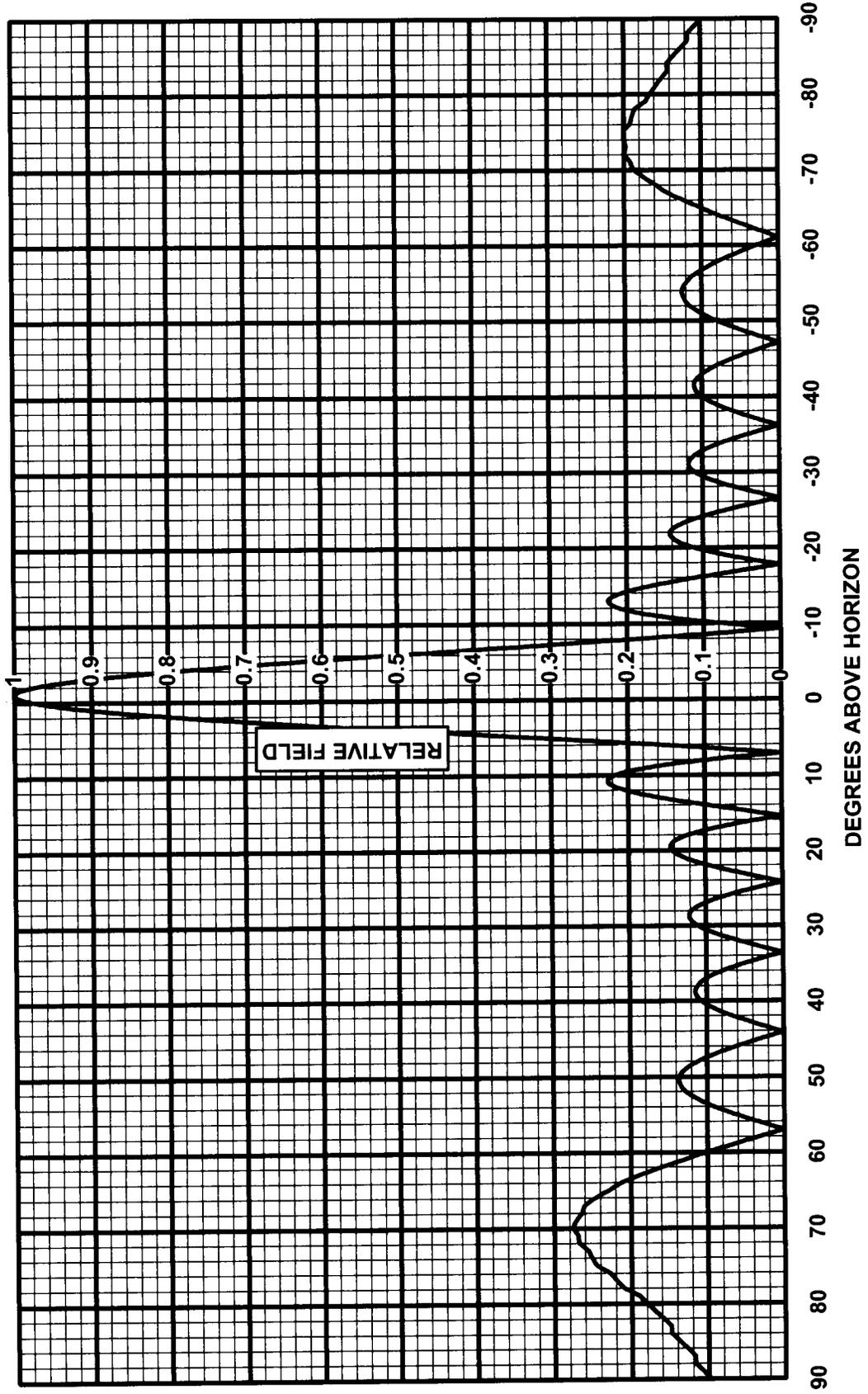


JSCP-7R, 101.1 MHz, B.T. -1° COMPUTED ELEVATION PATTERN





JSCP-7R, 101.1 MHz, B.T. -1°
COMPUTED ELEVATION PATTERN



Antenna Mfg.: Shively Labs
 Antenna Type: 6810-6D-60H/40V
 Station: KMTX
 Frequency: 105.3
 Channel #: 287
 Figure: 3

Date: 6/2/2004

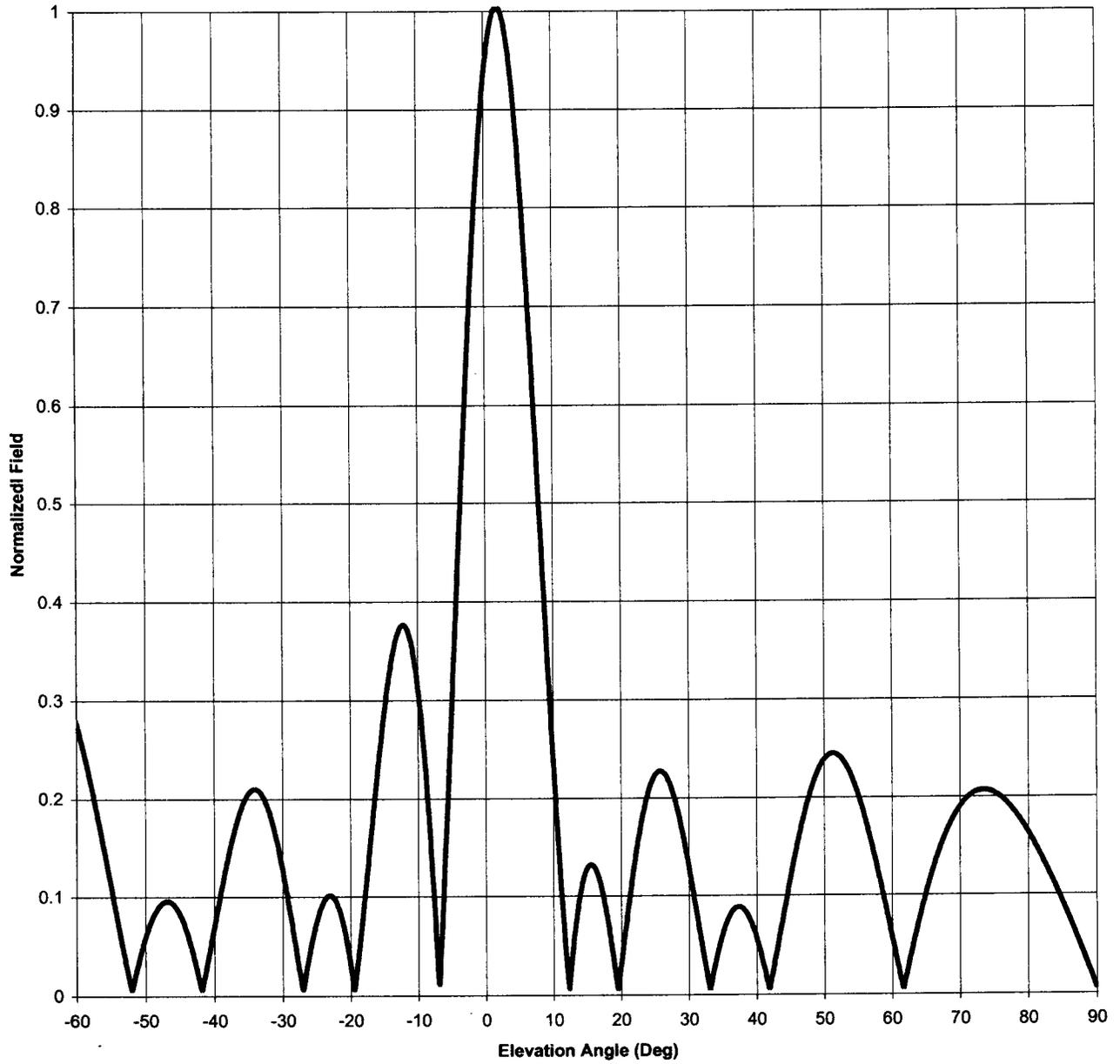
Beam Tilt 2
 Gain (Max) 3.718 5.703 dB
 Gain (Horizon) 3.452 5.381 dB

| Angle of Depression (Deg) | Relative Field |
|---------------------------|----------------|---------------------------|----------------|---------------------------|----------------|---------------------------|----------------|
| -90 | 0.000 | -44 | 0.060 | 0 | 0.928 | 46 | 0.146 |
| -89 | 0.019 | -43 | 0.035 | 1 | 0.982 | 47 | 0.176 |
| -88 | 0.037 | -42 | 0.005 | 2 | 1.000 | 48 | 0.202 |
| -87 | 0.055 | -41 | 0.029 | 3 | 0.983 | 49 | 0.221 |
| -86 | 0.073 | -40 | 0.065 | 4 | 0.932 | 50 | 0.234 |
| -85 | 0.091 | -39 | 0.101 | 5 | 0.851 | 51 | 0.239 |
| -84 | 0.109 | -38 | 0.135 | 6 | 0.746 | 52 | 0.239 |
| -83 | 0.127 | -37 | 0.164 | 7 | 0.623 | 53 | 0.231 |
| -82 | 0.145 | -36 | 0.187 | 8 | 0.492 | 54 | 0.217 |
| -81 | 0.164 | -35 | 0.201 | 9 | 0.359 | 55 | 0.198 |
| -80 | 0.182 | -34 | 0.205 | 10 | 0.232 | 56 | 0.175 |
| -79 | 0.201 | -33 | 0.199 | 11 | 0.118 | 57 | 0.147 |
| -78 | 0.219 | -32 | 0.183 | 12 | 0.023 | 58 | 0.117 |
| -77 | 0.238 | -31 | 0.157 | 13 | 0.051 | 59 | 0.085 |
| -76 | 0.256 | -30 | 0.123 | 14 | 0.100 | 60 | 0.053 |
| -75 | 0.273 | -29 | 0.083 | 15 | 0.124 | 61 | 0.020 |
| -74 | 0.290 | -28 | 0.041 | 16 | 0.125 | 62 | 0.012 |
| -73 | 0.306 | -27 | 0.001 | 17 | 0.106 | 63 | 0.043 |
| -72 | 0.320 | -26 | 0.040 | 18 | 0.071 | 64 | 0.071 |
| -71 | 0.333 | -25 | 0.070 | 19 | 0.025 | 65 | 0.098 |
| -70 | 0.344 | -24 | 0.090 | 20 | 0.027 | 66 | 0.121 |
| -69 | 0.352 | -23 | 0.097 | 21 | 0.080 | 67 | 0.142 |
| -68 | 0.358 | -22 | 0.088 | 22 | 0.129 | 68 | 0.160 |
| -67 | 0.360 | -21 | 0.064 | 23 | 0.170 | 69 | 0.174 |
| -66 | 0.360 | -20 | 0.025 | 24 | 0.201 | 70 | 0.186 |
| -65 | 0.355 | -19 | 0.027 | 25 | 0.218 | 71 | 0.194 |
| -64 | 0.347 | -18 | 0.088 | 26 | 0.222 | 72 | 0.199 |
| -63 | 0.335 | -17 | 0.155 | 27 | 0.213 | 73 | 0.202 |
| -62 | 0.318 | -16 | 0.222 | 28 | 0.192 | 74 | 0.202 |
| -61 | 0.297 | -15 | 0.283 | 29 | 0.162 | 75 | 0.199 |
| -60 | 0.273 | -14 | 0.332 | 30 | 0.125 | 76 | 0.195 |
| -59 | 0.244 | -13 | 0.363 | 31 | 0.084 | 77 | 0.188 |
| -58 | 0.213 | -12 | 0.371 | 32 | 0.043 | 78 | 0.180 |
| -57 | 0.179 | -11 | 0.354 | 33 | 0.004 | 79 | 0.170 |
| -56 | 0.143 | -10 | 0.308 | 34 | 0.030 | 80 | 0.158 |
| -55 | 0.106 | -9 | 0.233 | 35 | 0.057 | 81 | 0.146 |
| -54 | 0.069 | -8 | 0.132 | 36 | 0.075 | 82 | 0.133 |
| -53 | 0.033 | -7 | 0.007 | 37 | 0.083 | 83 | 0.118 |
| -52 | 0.000 | -6 | 0.135 | 38 | 0.082 | 84 | 0.103 |
| -51 | 0.030 | -5 | 0.288 | 39 | 0.072 | 85 | 0.087 |
| -50 | 0.055 | -4 | 0.443 | 40 | 0.053 | 86 | 0.071 |
| -49 | 0.074 | -3 | 0.593 | 41 | 0.026 | 87 | 0.054 |
| -48 | 0.086 | -2 | 0.728 | 42 | 0.005 | 88 | 0.037 |
| -47 | 0.091 | -1 | 0.842 | 43 | 0.040 | 89 | 0.019 |
| -46 | 0.088 | 0 | 0.928 | 44 | 0.076 | 90 | 0.000 |
| -45 | 0.078 | | | 45 | 0.112 | | |

Antenna Mfg.: Shively Labs
Antenna Type: 6810-6D-60H/40V
Station: KMTX
Frequency: 105.3
Channel #: 287
Figure: 3

Date: 6/2/2004

| | | |
|----------------|-------|----------|
| Beam Tilt | 2 | |
| Gain (Max) | 3.718 | 5.703 dB |
| Gain (Horizon) | 3.452 | 5.381 dB |



SECTION III-B FM Engineering

TECHNICAL SPECIFICATIONS

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

TECH BOX

1. Channel: _____
2. Class: A B1 B C3 C2 C1 C D

3. Antenna Location Coordinates: (NAD 27)
- _____ ° _____ ' _____ " N S Latitude
- _____ ° _____ ' _____ " E W Longitude

4. One-Step Proposal Allotment Coordinates: (NAD 27) Not applicable
- _____ ° _____ ' _____ " N S Latitude
- _____ ° _____ ' _____ " E W Longitude

5. Antenna Structure Registration Number: _____
- Not applicable FAA Notification Filed with FAA

6. Overall Tower Height Above Ground Level: _____ meters
7. Height of Radiation Center Above Mean Sea Level: _____ meters (H) _____ meters (V)
8. Height of Radiation Center Above Ground Level: _____ meters (H) _____ meters (V)
9. Height of Radiation Center Above Average Terrain: _____ meters (H) _____ meters (V)
10. Effective Radiated Power: _____ kW (H) _____ kW (V)
11. Maximum Effective Radiated Power: Not applicable _____ kW (H) _____ kW (V)
(Beam-Tilt Antenna ONLY)

12. Directional Antenna Relative Field Values: Not applicable (Nondirectional)
- Rotation: _____ ° No rotation

| Degree | Value | Degree | Value | Degree | Value | Degree | Value | Degree | Value | Degree | Value |
|---------------------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|
| 0 | | 60 | | 120 | | 180 | | 240 | | 300 | |
| 10 | | 70 | | 130 | | 190 | | 250 | | 310 | |
| 20 | | 80 | | 140 | | 200 | | 260 | | 320 | |
| 30 | | 90 | | 150 | | 210 | | 270 | | 330 | |
| 40 | | 100 | | 160 | | 220 | | 280 | | 340 | |
| 50 | | 110 | | 170 | | 230 | | 290 | | 350 | |
| Additional Azimuths | | | | | | | | | | | |

NOTE: In addition to the information called for in this section, an explanatory exhibit providing full particulars must be submitted for each question for which a "No" response is provided.

CERTIFICATION

AUXILIARY ANTENNA APPLICANTS ARE NOT REQUIRED TO RESPOND TO ITEMS 13-16. PROCEED TO ITEM 17.

13. **Allotment.** The proposed facility complies with the allotment requirements of 47 C.F.R. Section 73.203. Yes No See Explanation in Exhibit No.
14. **Community Coverage.** The proposed facility complies with 47 C.F.R. Section 73.315. Yes No See Explanation in Exhibit No.
15. **Main Studio Location.** The proposed main studio location complies with 47 C.F.R. Section 73.1125. Yes No See Explanation in Exhibit No.
16. **Interference.** The proposed facility complies with all of the following applicable rule sections. Check all those that apply. Yes No See Explanation in Exhibit No.
- Separation Requirements.**
- a. 47 C.F.R. Section 73.207.
- Grandfathered Short-Spaced.**
- b. 47 C.F.R. Section 73.213(a) with respect to station(s): _____ Exhibit No.
Exhibit Required.
- c. 47 C.F.R. Section 73.213(b) with respect to station(s): _____ Exhibit No.
Exhibit Required.
- d. 47 C.F.R. Section 73.213(c) with respect to station(s): _____ Exhibit No.
Exhibit Required.
- Contour Protection.**
- e. 47 C.F.R. Section 73.215 with respect to station(s): _____ Exhibit No.
Exhibit Required.
17. **Environmental Protection Act.** The proposed facility is excluded from environmental processing under 47 C.F.R. Section 1.1306 (*i.e.*, the facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine compliance through the use of the RF worksheets in Appendix A, an **Exhibit is required.** Yes No See Explanation in Exhibit No.

By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.

PREPARER'S CERTIFICATION ON PAGE 3 MUST BE COMPLETED AND SIGNED.

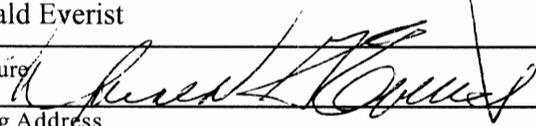
I certify that the statements in this application are true, complete, and correct to the best of my knowledge and belief, and are made in good faith. I acknowledge that all certifications and attached Exhibits are considered material representations. I hereby waive any claim to the use of any particular frequency as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and request an authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended.)

| | |
|---|--|
| Typed or Printed Name of Person Signing | Typed or Printed Title of Person Signing |
| Signature | Date |

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

SECTION III PREPARER'S CERTIFICATION

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

| | | |
|---|--|-------------------|
| Name Donald Everist | Relationship to Applicant (e.g., Consulting Engineer) Consulting Engineer | |
| Signature  | Date July 16, 2004 | |
| Mailing Address Cohen, Dippell and Everist, P.C., 1300 L Street, NW, Suite 1100 | | |
| City Washington | State or Country (if foreign address) DC | ZIP Code 20005 |
| Telephone Number (include area code) (202) 898-0111 | E-Mail Address (if available) cde@attglobal.net | |

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