

ENGINEERING STATEMENT
RE DTV BROADCAST ENGINEERING DATA
APPLICATION FOR MODIFICATION OF
CONSTRUCTION PERMIT
KDEB-DT, SPRINGFIELD, MISSOURI
CHANNEL 28 960 KW ERP 546 METERS

DECEMBER 2002

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

This engineering statement has been prepared in support of an application for the modification of an outstanding construction permit (BPCDT-19991101ADK) on behalf of Quorum of Missouri, License LLC ("Quorum"), licensee of TV station KDEB-TV, Springfield, Missouri. The purpose of the application is to colocate the DTV facility and the NTSC facility authorized by the outstanding construction permit (BPCT-20020528AAM). KDEB-TV is licensed to operate on NTSC television Channel 27 with a maximum visual effective radiated power of 5000 kW and a HAAT of 515 meters (1689.6 feet). KDEB-TV has been allocated DTV Channel 28 (554MHz - 564MHz) for its digital television operation and has been authorized to construct a facility with 1000 kW maximum ERP and HAAT of 489 meters. KDEB-DT proposes to construct DTV facilities of 960 kW (non-directional) at a HAAT of 546 meters at this new site since the collapse of the tower due to excessive ice loading. The proposed facility is greater than that authorized in Appendix B of the Sixth Report and Order on MM Docket No. 87-268.

The DTV transmitter site will be located at ST HWY FM, Fordland, Missouri. The KDEB DTV antenna will be located at the space vacated by the KOZK NTSC antenna. The KDEB-DT antenna will be located on the existing tower (Exhibit E-1) having a total overall structure height above ground of 609.6 meters (2000 feet). The registration number for the existing tower is 1028721.

The geographic coordinates of the proposed site are as follows:

North Latitude: 37° 13' 08"

West Longitude: 92° 56' 56"

NAD-27

Equipment Data

Antenna: Dielectric, Type TFU-30DSC-R 04 (or equivalent) antenna with 0.75E electrical beam tilt. The vertical plane pattern and other exhibits required by Section 73.625(c) are herein included as Exhibits E-2a through E-2c.

Transmission Line: 549 meters (1800 ft) of Dielectric, Type EIA Style Rigid, 7 inch, 75 ohm or equivalent

Power Data

Transmitter output	56.6 kW	17.53 dBk
Transmission line loss/efficiency	66.4%	-1.78 dB
Input power to the antenna	37.58 kW	15.75 dBk
Antenna power gain, Main Lobe	25.5	14.07 dB
Effective Radiated Power, Maximum	960 kW	29.82 dBk

Elevation Data

Vertical dimension for Channel 28 antenna	17.74 meters 58.2 feet
Overall height above ground of the proposed antenna structure (including beacon)	609.6 meters 2000 feet
Center of radiation of Channel 28 antenna above ground	507.3 meters 1664 feet
Elevation of site above mean sea level	480.7 meters 1577 feet
Center of radiation of Channel 28 antenna above mean sea level	988 meters 3242 feet

Overall height above mean sea level of existing tower and stacked antenna (including beacon)	1090.3 meters 3578 feet
Antenna height above average terrain	546 meters

Note: Slight height differences may result due to conversion to metric.

Allocation

An allocation study from the proposed site has been performed since the proposed DTV facilities exceed that authorized in Appendix B.

A study of predicted interference caused by the proposed KDEB-DT operation has been performed using a version of the Longley-Rice program as described in OET Bulletin No. 69 (July 2, 1997) and the Public Notice, "Additional Application Processing Guidelines for Digital Television (DTV)" (August 1998). The FCC's FORTRAN-77 code was modified only to the extent necessary (primarily input/output handling) for the program to run on a Windows 98/Intel platform. Comparison of service/interference areas and populations indicates that this model closely matches the FCC's evaluation program. Best efforts have been made to use data and calculations identical to the FCC's program. Any slight differences are attributable to compiler, operating system and/or processor characteristics. The effect of any variance in calculated population values versus the FCC's program is minimized when comparing a given model's results, such as calculating new interference as total interference less baseline interference. Any variance effect is further reduced when using ratios of calculated population values such as measuring the incremental population affected as a percent of the total population served. The model employs the Longley-Rice propagation methodology and evaluates in grid cells of

approximately 4 km² using 3-second terrain data sampled approximately every 0.1 km at one degree azimuth intervals with 1990 census centroids.

The FCC Public Notice Dated August 10, 1998 and titled “Additional Application Processing Guidelines for Digital Television” outlines the station selection criteria “culling distances” for considering potential interferes. Stations selected according to these criteria are listed in Table II. All of the potentially affected stations are predicted to receive less than de minimus levels of new interference. Also, none of these stations are covered by more restrictive interference standards due to more than 10% total interference or less than 90% replication.

The above considers all pending, outstanding construction permits and licensed operations abstracted from the FCC engineering database dated December 31, 2002.

Coverage

The map in Exhibit E-3 shows the proposed 48 and 41 dBu F(50,90) coverage contours. This illustrates the principal community, Springfield, Missouri, is well within the proposed 48 dBu F(50,90) contour.

KDEB-DT is increasing its HAAT and ERP from that specified in the allotment. This increase is necessary to provide the same geographic coverage area as the largest stations within this market in accordance with Section 73.622 (f)(5) of the FCC Rules. Exhibit E-3A illustrates the proposed coverage on KDEB-DT along with the coverage of the two largest stations within the Springfield, Missouri market, KOLR-DT and KYTV-DT. The proposed KDEB-DT (43.096 km²) geographic land area coverage within the predicted 41 dBu contour is smaller than the geographic coverage area of KOLR-DT (47.133 km²) and KYTV-DT (45,030 km²).

The average elevation data for 3.2 to 16.1 km along each radial are based upon the 3-second NGDC profile data.

The F(50,90) DTV coverage contour has been computed from reference to the propagation data for Channels 14-69, as published by the FCC in Figure 10b and Figure 10c, Section 73.699 of the FCC Rules and Regulations.

Utilizing the formula in Section 73.625(b)(2) of the Rules for the effective heights, it is found that the depression angle, A_h , varies from 0.625 to 0.662 degrees. Since the relative vertical field is greater than 90% of the maximum at these depression angles, the maximum power was used in determining the distance to the DTV contour.

Table I includes the distances to the predicted 48 and 41 dBu F(50,90) coverage contours, the average elevation 3 to 16 km, and the antenna height above average terrain for the eight radials.

Other Licensed and Broadcast Facilities

There are no AM stations within 5 km of the proposed KDEB-DT tower site. There are no FM stations within 0.2 km of the proposed site. There are several NTSC and DTV facilities located on the existing tower.

No adverse technical effect is anticipated by the proposed DT operation to any other FCC licensed facility. If required, the licensee of KDEB-DT will install filters or take other measures as necessary to resolve the problem.

Environment Statement

There are numerous other transmitters operating from the tower. The radiofrequency field level ("RFF") contribution of KDEB-DT will be added to the calculated value of the total RFF level of all other broadcast stations operating from the tower. The proposed operation based upon the current OET Bulletin No.65, Edition 97-01 dated August 1997 and Supplement A meets the provisions of the FCC radio frequency field guidelines, and thus, complies with Section 1.1307 of the FCC Rules.

<u>Station</u>	<u>Frequency</u>	<u>Channel</u>	<u>ERP (kW)</u>	<u>RCAGL(m) ¹</u>	<u>F ²</u>	<u>S (μW/cm²)</u>	<u>RFF % ³</u>
KDEB-DT	557	28	960	505.3	0.1	1.26	0.3
KDEB(TV)	551	27	4575	475.8	0.2	13.4	3.6
KOLR(TV)	195	10	316	590.3	0.2	0.6	0.2
KSPR(TV)	587	33	5000	550.3	0.2	11.0	2.8
KSPR-DT	503	19	1000	550.3	0.1	1.10	0.3
KOZK-DT	527	23	50	503.0	0.1	0.07	0.0
KOLR-DT	701	52	1000	530.3	0.1	1.19	0.3
K52DH	635	41	76	211.0	0.2	1.14	0.3
KWBS-LP	671	47 (-)	1	250.0	0.2	0.01	0.0

1. Radiation Center - 2 m

2. F = Relative Downward Field

3. Limit for an uncontrolled environment

The total contribution of all stations, 2 meters above the ground at the base of the tower, will be less than 10 percent of the current FCC guidelines for general population exposure. Authorized personnel and rigging contractors will be alerted to the potential zone of high radiation on the tower, and if necessary, the station will operate with reduced power or terminate the operation of the transmitter as appropriate when it is necessary for authorized personnel or contractors to perform work on the tower. Workers and the general public, therefore, will not be subjected to RFF levels in excess of the current FCC guidelines.

Environmental Assessment

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

- (a)(1) The proposed facilities on an existing communications site are not located in an officially designated wilderness area.
- (a)(2) The proposed facilities on an existing communications site are not located in an officially designated wildlife preserve.
- (a)(3) The proposed facilities located on an existing tower will not affect any listed threatened or endangered species or habitats.
- (a)(3)(ii) The proposed facilities located on an existing tower 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 proposed facilities located on an existing tower will not affect any known districts, sites, buildings, structures, or objects significant in American history, architecture, archaeology, engineering, or culture.
- (a)(5) The proposed facilities located on an existing tower are not located near any known Indian religious sites.
- (a)(6) The proposed facilities are not located in a flood plain.

- (a)(7) The installation of the antenna on the existing tower will not involve a significant change in surface features of the ground in the vicinity of the tower.
- (a)(8) It is not proposed to equip the tower with high intensity white lights unless required by the FAA.
- (b) Workers and the general public will not be subjected to RFF levels in excess of the current FCC guidelines in accordance with OET Bulletin No. 65, Edition 97-01, dated August 1997 and Supplement A.

TABLE I
DTV COVERAGE DATA
FOR THE PROPOSED OPERATION
KDEB-DT, SPRINGFIELD, MISSOURI
CHANNEL 28 960 KW ERP 546 METERS
DECEMBER 2002

<u>Radial</u> N E E, T	<u>Average</u> <u>Elevation</u> meters	<u>Effective*</u> <u>Height</u> meters	<u>Depression</u> <u>Angle</u>	<u>ERP</u> kW	<u>Distance to</u> 48 dBu F(50,90) <u>Contour</u> km	<u>Distance to</u> 41 dBu F(50,90) <u>Contour</u> km
0	431.6	556.4	0.653	960	103.3	117.7
45	430.7	557.3	0.654	960	103.3	117.8
90	468.2	519.8	0.632	960	100.5	115.4
135	478.4	509.6	0.625	960	99.6	114.8
180	448.3	539.7	0.644	960	102.1	116.7
225	429.2	558.8	0.655	960	103.4	117.9
270	417.0	571.0	0.662	960	104.1	118.6
315	416.5	571.2	0.662	960	104.1	118.6
Average	440.2	546.0				

*Based on NGDC 3 - second terrain data base.

DTV Channel 28 (554-564 MHz)
Average Elevation 3 to 16 km 440.2 meters AMSL
Center of Radiation 988 meters AMSL
Antenna Height Above Average Terrain 546 meters
Site Elevation 480.7 meters AMSL
Effective Radiated Power 960 kW (29.82 dBk) Max. at 0.75E Tilt

(NAD-27)

North Latitude: 37E 13' 08"
West Longitude: 92E 56' 56"

Cohen, Dippell and Everist, P.C.

TABLE II
POTENTIAL INTERFEREES OF
KDEB-DT, SPRINGFIELD, MISSOURI
CHANNEL 28 960 KW 546 METERS
DECEMBER 2002

Station	Ch	Status	City/State	Power kW	Bearing / Distance from KDEB-DT	App Ref No	New Interference
K14IT CA	14	LIC	Bentonville, AR	13.4	230.5E/143.1 km	BLTT-19940525JL	0.0%
KOZK-TV	21	LIC	Springfield, MO	1410.0	0.0E/0.0 km	BLET-377	no interference
KOZK-TV	21	APP	Springfield, MO	100.0	173.3E/5.5 km	BPET-20020826ABJ	no interference
KOZJ-TV	26	LIC	Joplin, MO	51.3	264.1E/141.5 km	BLET-19860623KI	0.0%
KPOM-TV	27	CP	Fort Smith, AR	200.0	212.7E/198.5 km	BPCDT-19991028AEE	no interference
KPOM-DT	27	ALLOT	Fort Smith, AR	96.5	212.7E/198.5 km	DTVPLN-DTVP0624	no interference
KLEP-DT	27	ALLOT	Newark, AR	50.0	140.6E/213.8 km	DTVPLN-DTVP0625	0.0%
KDEB-TV	27	LIC	Springfield, MO	5000.0	154.8E/3.0 km	BLCT-19860714KF	0.0%
KDEB-TV	27	APP	Springfield, MO	4575.0	0.0E/0.0 km	BPCT-20020528AAM	0.0%
KJLR-CA	28	LIC	Little Rock, AR	13.5	167.4E/281.7 km	BLTTL-19960424JF	no interference
KSNT-DT	28	CP	Topeka, KS	1000.0	310.9E/323.7 km	BPCDT-19991021AAM	1.94%
KSNT-DT	28	ALLOT	Topeka, KS	50.0	310.9E/323.7 km	DTVPLN-DTVP0668	0.03%
K62EG CA	28	APP	St. Louis, MO	2.8	58.15E/257.9 km	BPTTL-19980601YF	no interference
KTPX-DT	28	CP	Okmulgee, OK	1000.0	242.5E/325.3 km	BPCDT-19990604KG	0.07%
KTPX-DT	28	ALLOT	Okmulgee, OK	133.8	242.5E/322.7	DTVPLN-DTVP0681	0.01%
WREG-TV	28	CP	Memphis, TN	906.0	128.1E/359.7	BPCDT-19981116KF	0.07%
WREG-DT	28	ALLOT	Memphis, TN	1000.0	128.1E/359.7	DTVPLN-DTVP0684	0.05%
KHOG-TV	29	LIC	Fayetteville, AR	1410.0	217.5E/167.7	BLCT-19980109KF	0.0%
KCLJ-CA	30	CP	Joplin, MO	140.8	262.2E/128.9	BPTTL-20011210ABC	0.0%
KWBM-TV	31	LIC	Harrison, AR	5000.0	190.1E/58.0	BLCT-20010102AAZ	0.0%

ABOVE MEAN SEA LEVEL

ABOVE GROUND

1090.3 m.

609.6 m.

1,033 m. C/R

592 m. C/R KOLR(TV)

1,013 m. C/R

575 m.

553 m. C/R
KSPR(TV) & KSPR-DT

988 m. C/R

532 m. C/R KOLR-DT

KDEB-DT ANTENNA

507.3 m. C/R

958 m. C/R

478 m. C/R KDEB(TV)

693.7 m. C/R

213 m. C/R K41FQ-TX

*PAINING AND LIGHTING
ARE IN ACORDANCE WITH
F.A.A. RULES AND REGULATIONS*

TOWER REGISTRATION
No. 1028721

GUYPED TOWER

480.7 m.

0.0 m.

(NOT TO SCALE)

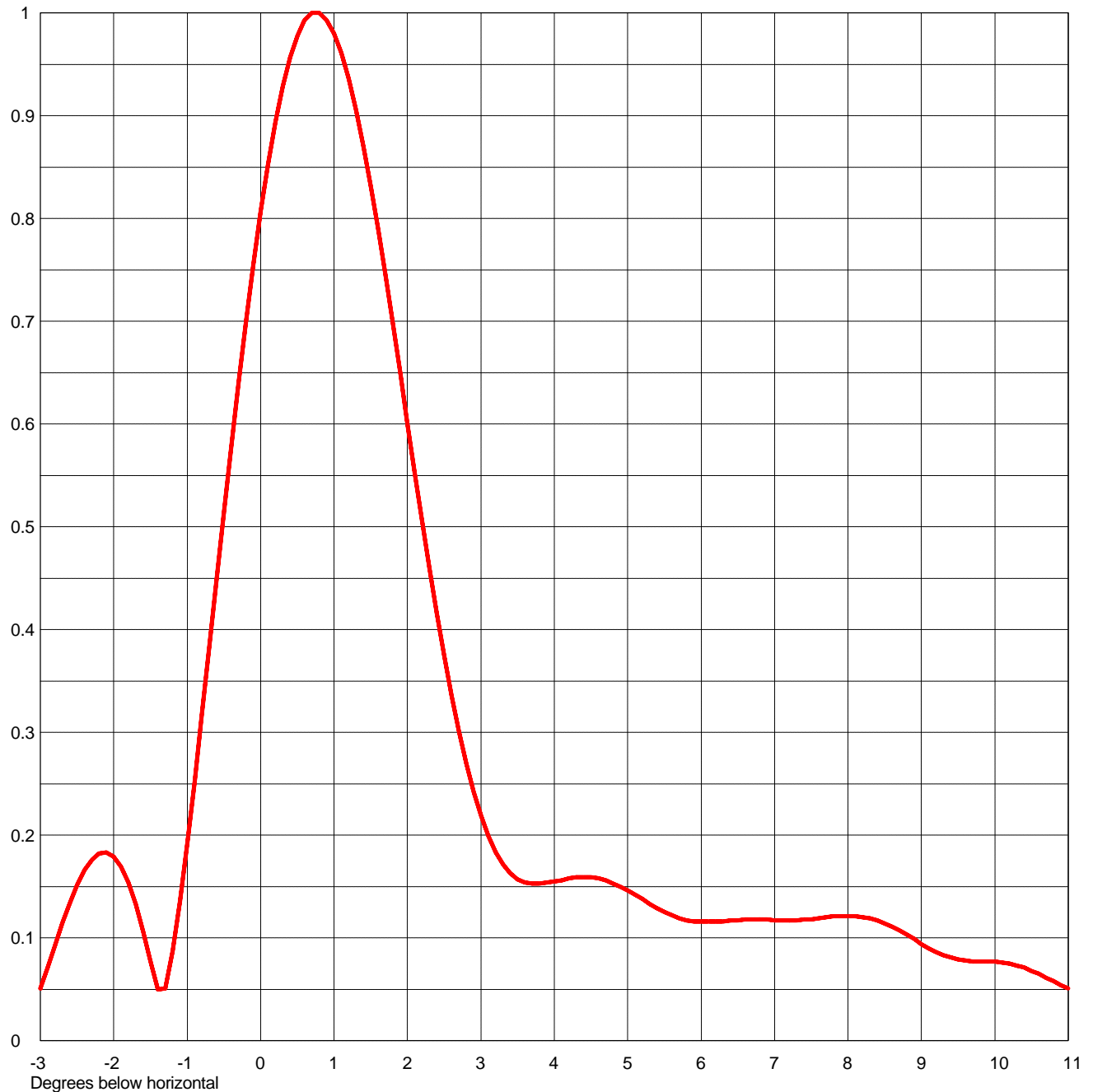
EXHIBIT E-2
VERTICAL SKETCH
FOR THE PROPOSED OPERATION OF
KDEB-DT, SPRINGFIELD, MISSOURI
NOVEMBER 2002



Proposal Number		Revision	
Date	23 Sep 2002		
Call Letters	KDEB-DT	Channel	28
Location	Springfield, MO		
Customer			
Antenna Type	TFU-30DSC-R O4		

ELEVATION PATTERN

RMS Gain at Main Lobe	25.5 (14.07 dB)	Beam Tilt	0.75 Degrees
RMS Gain at Horizontal	16.6 (12.20 dB)	Frequency	557.00 MHz
Calculated / Measured	Calculated	Drawing #	30Q255075



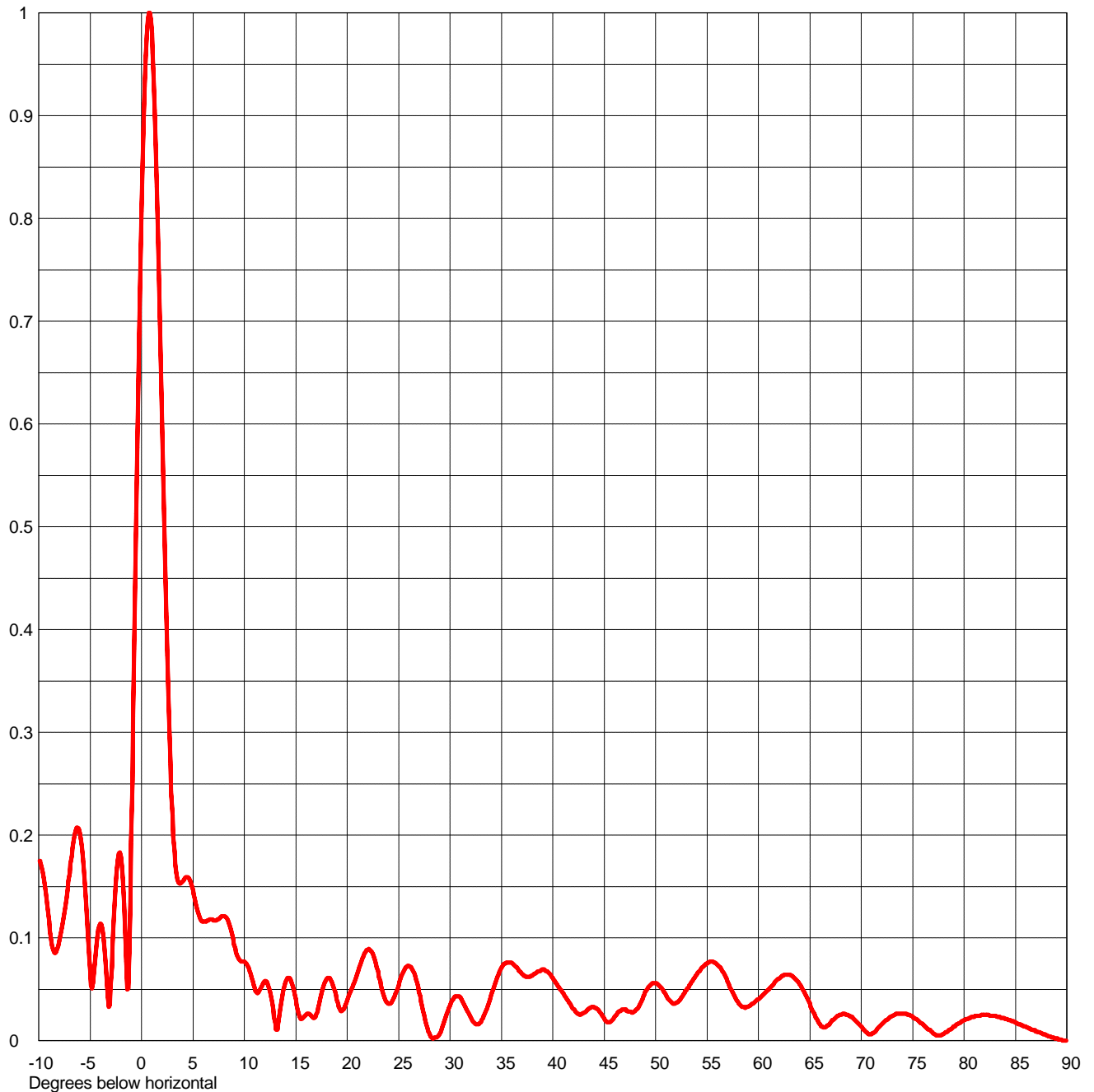
Remarks:



Proposal Number	Revision		
Date	23 Sep 2002		
Call Letters	KDEB-DT	Channel	28
Location	Springfield, MO		
Customer			
Antenna Type	TFU-30DSC-R O4		

ELEVATION PATTERN

RMS Gain at Main Lobe	25.5 (14.07 dB)	Beam Tilt	0.75 Degrees
RMS Gain at Horizontal	16.6 (12.20 dB)	Frequency	557.00 MHz
Calculated / Measured	Calculated	Drawing #	30Q255075-90



Remarks:



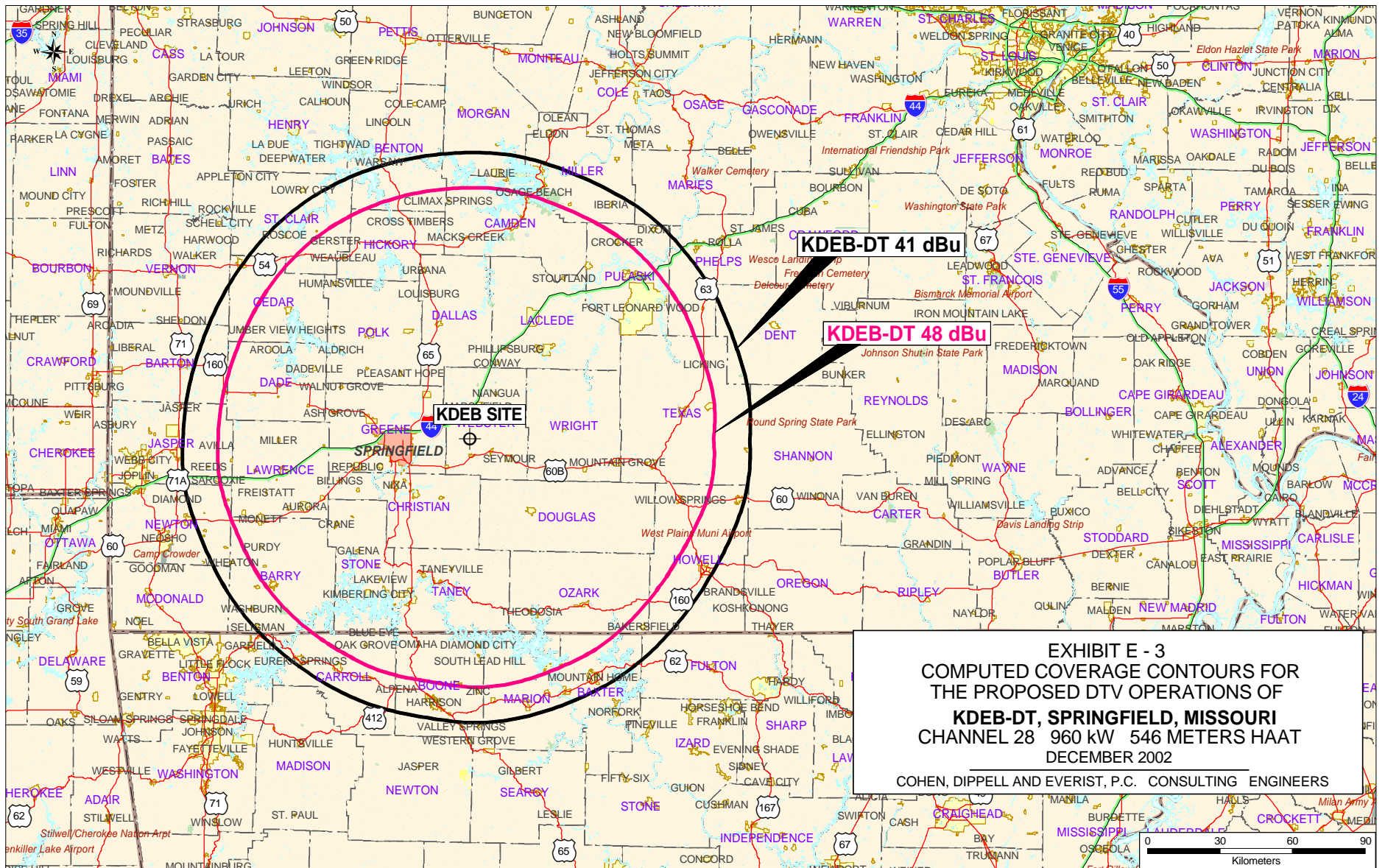
Proposal Number
 Date **23 Sep 2002**
 Call Letters **KDEB-DT** Channel **28**
 Location **Springfield, MO**
 Customer
 Antenna Type **TFU-30DSC-R O4**

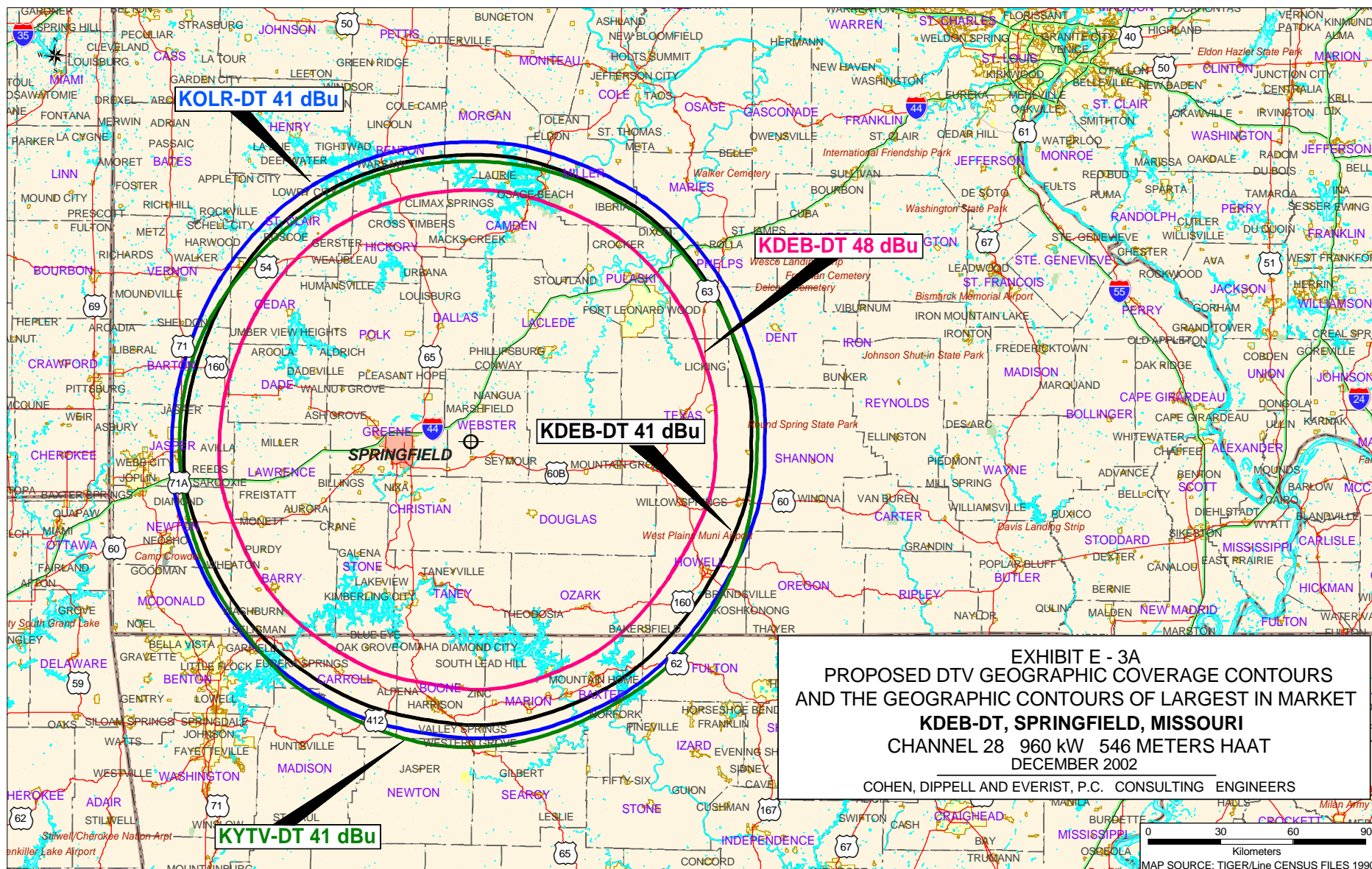
TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing # **30Q255075-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.176	2.4	0.416	10.6	0.065	30.5	0.043	51.0	0.044	71.5	0.010
-9.5	0.157	2.6	0.336	10.8	0.058	31.0	0.042	51.5	0.038	72.0	0.016
-9.0	0.116	2.8	0.270	11.0	0.051	31.5	0.033	52.0	0.037	72.5	0.020
-8.5	0.086	3.0	0.219	11.5	0.049	32.0	0.023	52.5	0.042	73.0	0.024
-8.0	0.097	3.2	0.183	12.0	0.058	32.5	0.016	53.0	0.049	73.5	0.026
-7.5	0.125	3.4	0.163	12.5	0.047	33.0	0.018	53.5	0.057	74.0	0.026
-7.0	0.163	3.6	0.154	13.0	0.017	33.5	0.029	54.0	0.064	74.5	0.025
-6.5	0.200	3.8	0.153	13.5	0.030	34.0	0.044	54.5	0.071	75.0	0.023
-6.0	0.202	4.0	0.155	14.0	0.057	34.5	0.059	55.0	0.075	75.5	0.020
-5.5	0.149	4.2	0.158	14.5	0.059	35.0	0.071	55.5	0.077	76.0	0.016
-5.0	0.065	4.4	0.159	15.0	0.040	35.5	0.076	56.0	0.074	76.5	0.011
-4.5	0.078	4.6	0.158	15.5	0.021	36.0	0.076	56.5	0.067	77.0	0.007
-4.0	0.114	4.8	0.153	16.0	0.025	36.5	0.071	57.0	0.058	77.5	0.005
-3.5	0.075	5.0	0.146	16.5	0.024	37.0	0.065	57.5	0.047	78.0	0.006
-3.0	0.051	5.2	0.138	17.0	0.025	37.5	0.062	58.0	0.038	78.5	0.010
-2.8	0.093	5.4	0.129	17.5	0.045	38.0	0.063	58.5	0.033	79.0	0.014
-2.6	0.134	5.6	0.122	18.0	0.060	38.5	0.067	59.0	0.033	79.5	0.017
-2.4	0.166	5.8	0.117	18.5	0.057	39.0	0.069	59.5	0.036	80.0	0.020
-2.2	0.182	6.0	0.116	19.0	0.040	39.5	0.067	60.0	0.040	80.5	0.022
-2.0	0.179	6.2	0.116	19.5	0.029	40.0	0.061	60.5	0.045	81.0	0.023
-1.8	0.154	6.4	0.117	20.0	0.039	40.5	0.053	61.0	0.050	81.5	0.024
-1.6	0.106	6.6	0.118	20.5	0.052	41.0	0.046	61.5	0.055	82.0	0.025
-1.4	0.050	6.8	0.118	21.0	0.066	41.5	0.039	62.0	0.060	82.5	0.024
-1.2	0.087	7.0	0.117	21.5	0.080	42.0	0.031	62.5	0.064	83.0	0.024
-1.0	0.193	7.2	0.117	22.0	0.088	42.5	0.026	63.0	0.064	83.5	0.023
-0.8	0.316	7.4	0.118	22.5	0.084	43.0	0.027	63.5	0.061	84.0	0.021
-0.6	0.447	7.6	0.119	23.0	0.067	43.5	0.031	64.0	0.055	84.5	0.020
-0.4	0.577	7.8	0.121	23.5	0.046	44.0	0.033	64.5	0.046	85.0	0.018
-0.2	0.699	8.0	0.121	24.0	0.036	44.5	0.029	65.0	0.036	85.5	0.016
0.0	0.807	8.2	0.120	24.5	0.041	45.0	0.021	65.5	0.025	86.0	0.014
0.2	0.894	8.4	0.117	25.0	0.054	45.5	0.018	66.0	0.016	86.5	0.011
0.4	0.957	8.6	0.111	25.5	0.067	46.0	0.023	66.5	0.013	87.0	0.009
0.6	0.993	8.8	0.103	26.0	0.073	46.5	0.029	67.0	0.017	87.5	0.007
0.8	1.000	9.0	0.094	26.5	0.066	47.0	0.030	67.5	0.022	88.0	0.005
1.0	0.980	9.2	0.086	27.0	0.047	47.5	0.028	68.0	0.025	88.5	0.003
1.2	0.936	9.4	0.081	27.5	0.025	48.0	0.029	68.5	0.025	89.0	0.002
1.4	0.870	9.6	0.078	28.0	0.007	48.5	0.036	69.0	0.023	89.5	0.001
1.6	0.789	9.8	0.077	28.5	0.003	49.0	0.047	69.5	0.019	90.0	0.000
1.8	0.697	10.0	0.077	29.0	0.006	49.5	0.054	70.0	0.014		
2.0	0.601	10.2	0.075	29.5	0.020	50.0	0.056	70.5	0.008		
2.2	0.506	10.4	0.071	30.0	0.034	50.5	0.052	71.0	0.006		

Remarks:





SECTION III-D - DTV Engineering

Complete Questions 1-5 of the Certification Checklist and provide all data and information for the proposed facility, as requested in Technical Specifications, Items 1-13.

Certification Checklist: A correct answer of "Yes" to all of the questions below will ensure an expeditious grant of a construction permit. However, if the proposed facility is located within the Canadian or Mexican borders, coordination of the proposal under the appropriate treaties may be required prior to grant of the application. An answer of "No" will require additional evaluation of the applicable information in this form before a construction permit can be granted.

1. The proposed DTV facility complies with 47 C.F.R. Section 73.622 in the following respects:

- (a) It will operate on the DTV channel for this station as established in 47 C.F.R. Section 73.622. ☐ Yes ☐ No
 - (b) It will operate from a transmitting antenna located within 5.0 km (3.1 miles) of the DTV reference site for this station as established in 47 C.F.R. Section 73.622. ☐ Yes ☐ No
 - (c) It will operate with an effective radiated power (ERP) and antenna height above average terrain (HAAT) that do not exceed the DTV reference ERP and HAAT for this station as established in 47 C.F.R. Section 73.622. ☐ Yes ☐ No
2. The proposed facility will not have a significant environmental impact, including exposure of workers or the general public to levels of RF radiation exceeding the applicable health and safety guidelines, and therefore will not come within 47 C.F.R. Section 1.1307. ☐ Yes ☐ No

Applicant must **submit the Exhibit** called for in Item 13.

- ☐ Yes ☐ No
3. Pursuant to 47 C.F.R. Section 73.625, the DTV coverage contour of the proposed facility will encompass the allotted principal community. ☐ Yes ☐ No
4. The requirements of 47 C.F.R. Section 73.1030 regarding notification to radio astronomy installations, radio receiving installations and FCC monitoring stations have either been satisfied or are not applicable. ☐ Yes ☐ No
5. The antenna structure to be used by this facility has been registered by the Commission and will not require reregistration to support the proposed antenna, OR the FAA has previously determined that the proposed structure will not adversely effect safety in air navigation and this structure qualifies for later registration under the Commission's phased registration plan, OR the proposed installation on this structure does not require notification to the FAA pursuant to 47 C.F.R. Section 17.7. ☐ Yes ☐ No

SECTION III-D DTV 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 Number: DTV _____ Analog TV, if any _____

2. Zone: ☐ I ☐ II ☐ III

3. Antenna Location Coordinates: (NAD 27)

_____ ° _____ ' _____ " ☐ N ☐ S Latitude
_____ ° _____ ' _____ " ☐ E ☐ W Longitude

4. Antenna Structure Registration Number: _____

☐ Not applicable ☐ FAA Notification Filed with FAA

5. Antenna Location Site Elevation Above Mean Sea Level: _____ meters

6. Overall Tower Height Above Ground Level: _____ meters

7. Height of Radiation Center Above Ground Level: _____ meters

8. Height of Radiation Center Above Average Terrain: _____ meters

9. Maximum Effective Radiated Power (average power): _____ kW

10. Antenna Specifications:

a.

Manufacturer	Model
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b. Electrical Beam Tilt: _____ degrees ☐ Not Applicable

c. Mechanical Beam _____ degrees toward azimuth _____ degrees True ☐ Not Applicable

Attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c).

Exhibit No.

d. Polarization: ☐ Horizontal ☐ Circular ☐ Elliptical

TECH BOX

e. 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											

If a directional antenna is proposed, the requirements of 47 C.F.R. Section 73.625(c) must be satisfied. **Exhibit required.**

Exhibit No.

11. Does the proposed facility satisfy the interference protection provisions of 47 C.F.R. Section 73.623(a)? (Applicable only if **Certification Checklist** Items 1(a), (b), or (c) are answered "No.") ☐ Yes ☐ No

If "No," attach as an Exhibit justification therefor, including a summary of any related previously granted waivers.

Exhibit No.

12. If the proposed facility will not satisfy the coverage requirement of 47 C.F.R. Section 73.625, attach as an Exhibit justification therefor. (Applicable only if **Certification Checklist** Item 3 is answered "No.")

Exhibit No.

13. **Environmental Protection Act. Submit in an Exhibit** the following:

Exhibit No.

- a. If **Certification Checklist** Item 2 is answered "Yes," a brief explanation of why an Environmental Assessment is not required. Also describe in the Exhibit the steps that will be taken to limit RF radiation exposure to the public and to persons authorized access to the tower site.

By checking "Yes" to **Certification Checklist** Item 2, 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.

If **Certification Checklist** Item 2 is answered "No," an Environmental Assessment as required by 47 C.F.R. Section 1.1311.

PREPARER'S CERTIFICATION IN SECTION III 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	Relationship to Applicant (e.g., Consulting Engineer)	
Signature	Date	
Mailing Address		
City	State or Country (if foreign address)	ZIP Code
Telephone Number (include area code)	E-Mail Address (if available)	

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).