

ENGINEERING STATEMENT
RE DTV BROADCAST ENGINEERING DATA
APPLICATION FOR MODIFICATION OF
CONSTRUCTION PERMIT
(FCC FILE NO. BMPCDT-20030107AAN)
KSFX-DT, SPRINGFIELD, MISSOURI
CHANNEL 28 1000 KW ERP 493 METERS HAAT

JANUARY 2007

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)

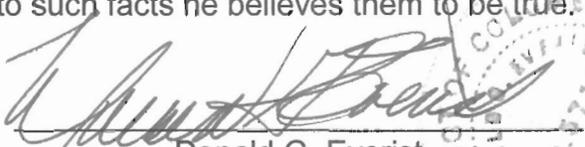
Donald G. Everist, being duly sworn upon his oath, deposes and states that:

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;

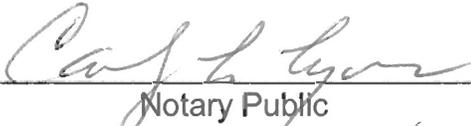
That the attached engineering report was prepared by him or under his supervision and direction and

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 11th day of January, 2007.




Notary Public

My Commission Expires: 2/28/2008

COHEN, DIPPELL AND EVERIST, P. C.

City of Washington)
) ss
District of Columbia)

Martin R. Doczkat being duly sworn upon his oath, deposes and states that:

He is a graduate electrical engineer of the Pennsylvania State University, and is a staff engineer at Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio - Television, with offices at 1300 L Street, N.W., Suite 1100, Washington, D.C. 20005;

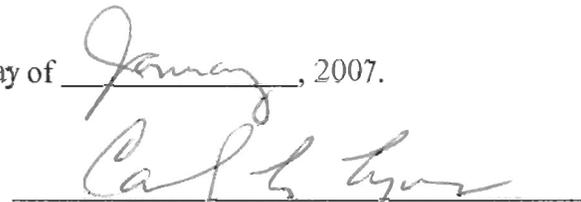
That the attached engineering report was prepared by him or under his supervision and direction and

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.



Martin R. Doczkat

Subscribed and sworn to before me this 11th day of January, 2007.



Notary Public

My Commission Expires: 2/28/2008



This engineering statement has been prepared in support of an application for the modification of an outstanding construction permit (FCC File No. BMPCDT-20030107AAN) on behalf of Nexstar Broadcasting, Inc. ("Nexstar"), licensee of TV station KSFX-TV, Springfield, Missouri. The purpose of the application is to colocate the DTV facilities requested for both KOLR-DT and KSFX-DT from a common antenna. KSFX-TV is licensed to operate on NTSC television Channel 27 with a maximum visual effective radiated power of 5000 kW and a HAAT of 516.5 meters. KSFX-TV has been allocated DTV Channel 28 (554MHz - 564MHz) for its digital television operation and has been authorized to construct a facility with 960 kW maximum ERP at a HAAT of 546 meters. KSFX-DT proposes to construct DTV facilities of 1000 kW (non-directional) at a HAAT of 493 meters at its currently authorized tower site. The proposed KSFX-DT antenna will be diplexed with KOLR-DT in a dual-channel MCI antenna.

The existing DTV transmitter site is located at ST HWY F NR (#30481), Marshfield, Missouri. The KSFX-DT antenna will be located on the existing tower (Exhibit E-1) having a total overall structure height above ground of 608.4 meters (1996 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: MCI, Model #9551516 (or equivalent) horizontally polarized panel antenna with 0.75° electrical beam tilt. The vertical plane pattern and other exhibits required by Section 73.625(c) are herein included in Exhibit E-2.

Transmission Line: 483.4 meters (1586 ft) of rigid 7-3/16", 75 ohm or equivalent

Power Data

Transmitter output	45.7 kW	16.60 dBk
Transmission line efficiency/loss	69.7 %	1.57 dB
Combiner efficiency/loss	95.5%	0.2 dB
Input power to the antenna	31.83 kW	15.03 dBk
Antenna power gain, Main Lobe	31.41	14.97 dB
Effective Radiated Power, Maximum	1000 kW	30 dBk

Elevation Data

Overall height above ground of the proposed antenna structure (including beacon)	608.4 meters 1996 feet
Center of radiation of Channel 28 antenna above ground	452.9 meters 1485.9 feet
Elevation of site above mean sea level	480.1 meters 1575.1 feet
Center of radiation of Channel 28 antenna above mean sea level	933 meters 3061 feet

Overall height above mean sea level of existing tower and stacked antenna (including beacon)	1088.5 meters 3571 feet
Antenna height above average terrain	493 meters

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

Coverage

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.

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_n , varies from 0.591 to 0.630 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 3.2 to 16.1 km, and the antenna height above average terrain for the eight radials.

Allocation

An allocation study from the proposed site has not been performed as the proposed DTV facilities are to be located at the coordinates authorized by the outstanding construction permit (FCC File No. BMPCDT-20030107AAN).

Interference Analysis

A study of predicted interference caused by the proposed KSFX-DT operation has not been performed as the proposed F(50,90) 41 dBu contour is not predicted to extend in any direction beyond that authorized by the F(50,90) 41 dBu contour of the outstanding construction permit (see Exhibit E-4).

Other Licensed and Broadcast Facilities

There are no AM stations within 3.22 km of the proposed KSFX-DT tower site. There are no FM stations within 100 meters 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 KSFX-DT will install filters or take other measures as necessary to resolve the problem.

FCC Rule, Section 1.1307

The proposed 1000 kW operation will utilize a MCI, Model #9551516 antenna or the equivalent as described above with a center of radiation above ground of 452.9 meters. The proposed antenna will be side-mounted on a single guyed, uniform, cross-section, steel lattice tower with an overall height of 608.4 meters AGL.

There are numerous other transmitters operating from the tower. The radiofrequency field level ("RFF") contribution of KSFX-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 (: W/cm²)</u>	<u>RFF % ³</u>
KSFX-DT Prop.	557	28	1000	450.9	0.1	1.64	0.5
KOLR-DT Prop.	701	52	1000	450.9	0.1	1.64	0.4
KSFX-TV Lic.	551	27	5000	476.4	0.2	14.8	4.0
KOLR(TV) Lic.	195	10	316	590.3	0.2	0.6	0.2
KSPR(TV) Lic.	587	33	5000	550.3	0.2	11.0	2.8
KSPR-DT CP	503	19	1000	550.3	0.1	1.10	0.3
K41FQ-D CP	635	41	15	211.0	0.2	0.45	0.1

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 8.3% of the current FCC guidelines for general population exposure.

Authorized personnel and rigging contractors will be alerted to the potential zone of high field level 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 as the tower was constructed prior to the requirements specified in WT Docket No. 03-128 and the permittee indicates:

- (a)(1) The existing tower is not located in an officially designated wilderness area.
- (a)(2) The existing tower is not located in an officially designated wildlife preserve.
- (a)(3) The proposed facilities will not affect any listed threatened or endangered species or habitats.
- (a)(3)(ii) The proposed facilities 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 will be located on a tower which was built prior to the adoption of WT Docket No. 03-128 and will not affect any known districts, sites, buildings, structures, or objects significant in American history, architecture, archaeology, engineering, or culture.
- (a)(5) The existing tower is not located near any known Indian religious sites.

- (a)(6) The existing tower is not located in a flood plain.
- (a)(7) The installation of the DTV facilities on an 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.

ABOVE MEAN SEA LEVEL

ABOVE GROUND

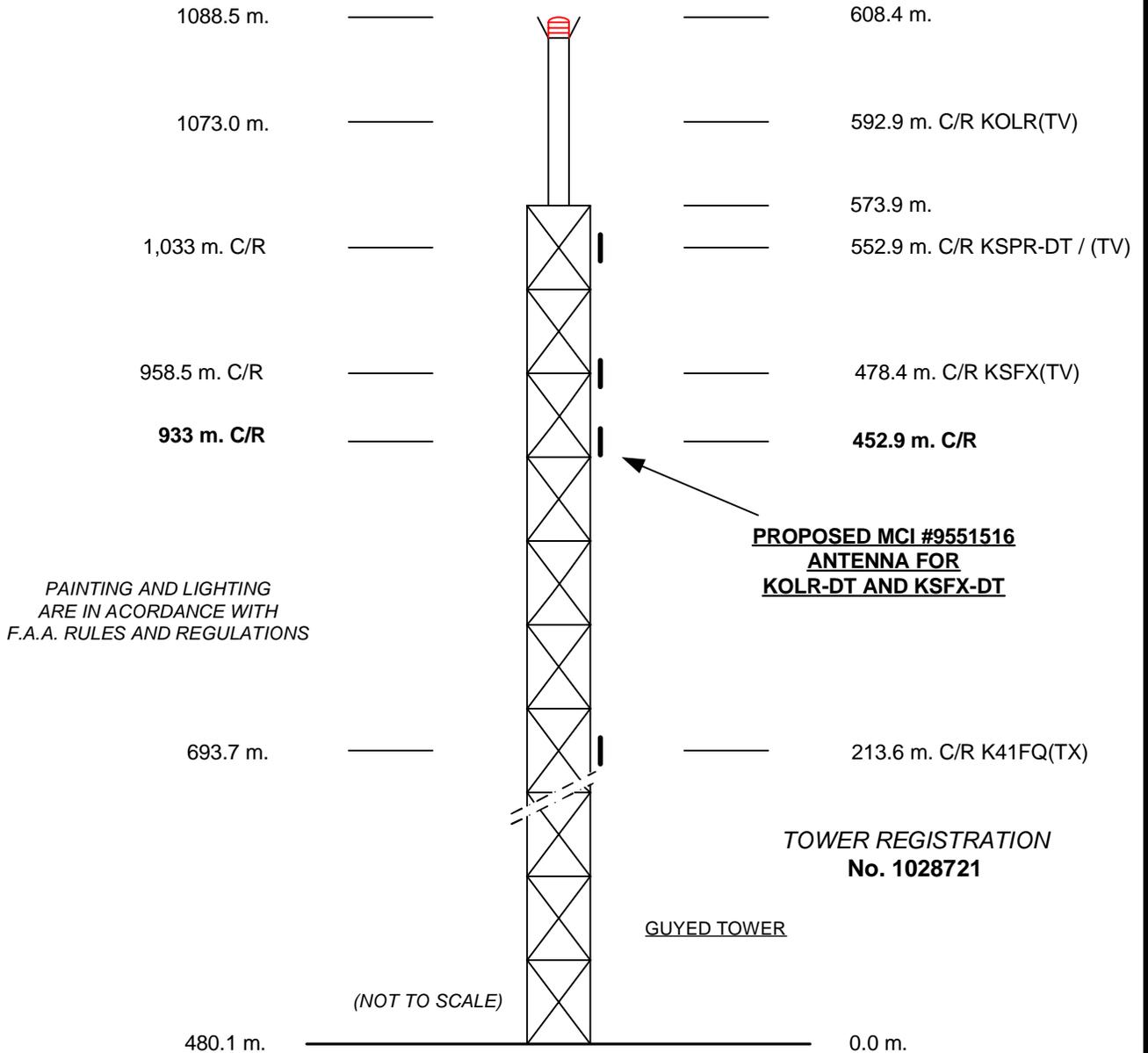


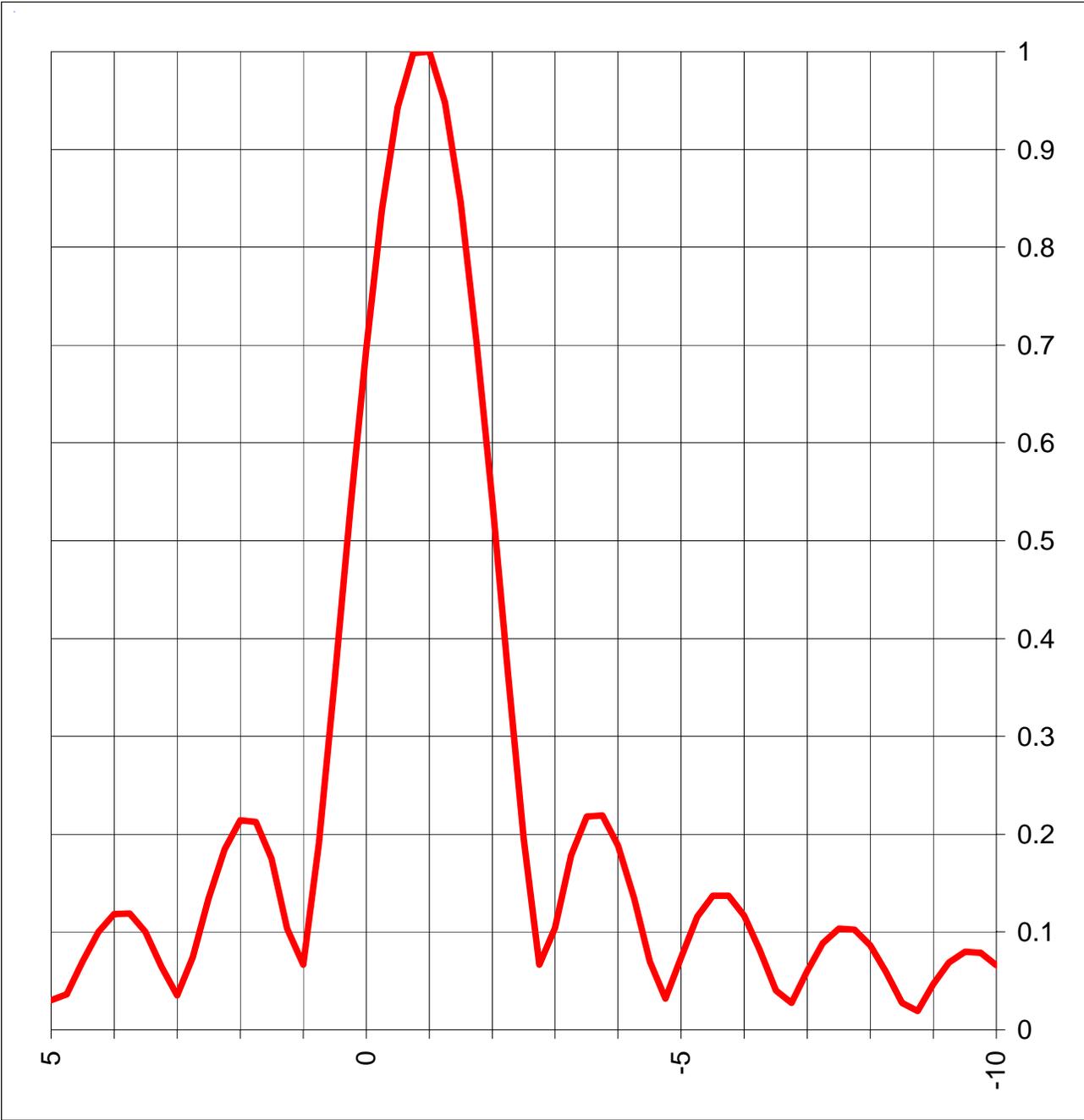
EXHIBIT E - 1
VERTICAL SKETCH
FOR THE PROPOSED OPERATION OF
KSFX-DT, SPRINGFIELD, MISSOURI
JANUARY 2007

EXHIBIT E-2

ANTENNA MANUFACTURER DATA

KSFX-DT, SPRINGFIELD, MISSOURI

Vertical Pattern Ch-28



Micro Communications, Inc.

P.O. Box 4365 Manchester, NH 03108-4365

Tel: 800-545-0608

FAX: 603-624-4822

Vertical Pattern Data Ch-28

Degrees	Field								
-10.00	0.049	0.25	0.839	10.50	0.021	20.75	0.004	49	0.004
-9.75	0.058	0.50	0.943	10.75	0.020	21.00	0.013	50	0.011
-9.50	0.058	0.75	0.998	11.00	0.041	21.25	0.023	51	0.014
-9.25	0.049	1.00	1.000	11.25	0.058	21.50	0.030	52	0.005
-9.00	0.033	1.25	0.948	11.50	0.067	21.75	0.033	53	0.009
-8.75	0.015	1.50	0.846	11.75	0.065	22.00	0.030	54	0.014
-8.50	0.023	1.75	0.706	12.00	0.055	22.25	0.024	55	0.008
-8.25	0.043	2.00	0.539	12.25	0.037	22.50	0.015	56	0.005
-8.00	0.059	2.25	0.363	12.50	0.015	22.75	0.007	57	0.013
-7.75	0.066	2.50	0.195	12.75	0.014	23.00	0.011	58	0.012
-7.50	0.063	2.75	0.067	13.00	0.034	23.25	0.019	59	0.003
-7.25	0.049	3.00	0.104	13.25	0.049	23.50	0.026	60	0.008
-7.00	0.028	3.25	0.179	13.50	0.056	23.75	0.029	61	0.013
-6.75	0.016	3.50	0.218	13.75	0.055	24.00	0.028	62	0.011
-6.50	0.038	3.75	0.219	14.00	0.046	24.25	0.024	63	0.003
-6.25	0.063	4.00	0.188	14.25	0.031	24.50	0.016	64	0.008
-6.00	0.079	4.25	0.134	14.50	0.013	24.75	0.008	65	0.013
-5.75	0.084	4.50	0.070	14.75	0.011	25.00	0.009	66	0.013
-5.50	0.076	4.75	0.032	15.00	0.028	26.00	0.029	67	0.008
-5.25	0.055	5.00	0.074	15.25	0.041	27.00	0.009	68	0.003
-5.00	0.030	5.25	0.115	15.50	0.048	28.00	0.033	69	0.009
-4.75	0.037	5.50	0.137	15.75	0.047	29.00	0.009	70	0.012
-4.50	0.070	5.75	0.137	16.00	0.040	30.00	0.040	71	0.012
-4.25	0.100	6.00	0.117	16.25	0.028	31.00	0.024	72	0.008
-4.00	0.118	6.25	0.082	16.50	0.011	32.00	0.056	73	0.004
-3.75	0.119	6.50	0.040	16.75	0.007	33.00	0.120	74	0.003
-3.50	0.100	6.75	0.027	17.00	0.022	34.00	0.117	75	0.006
-3.25	0.064	7.00	0.060	17.25	0.034	35.00	0.060	76	0.008
-3.00	0.035	7.25	0.089	17.50	0.041	36.00	0.006	77	0.010
-2.75	0.075	7.50	0.104	17.75	0.042	37.00	0.025	78	0.011
-2.50	0.134	7.75	0.102	18.00	0.037	38.00	0.011	79	0.010
-2.25	0.185	8.00	0.087	18.25	0.027	39.00	0.014	80	0.009
-2.00	0.214	8.25	0.059	18.50	0.013	40.00	0.017	81	0.007
-1.75	0.213	8.50	0.027	18.75	0.003	41.00	0.004	82	0.005
-1.50	0.175	8.75	0.019	19.00	0.016	42.00	0.017	83	0.005
-1.25	0.104	9.00	0.047	19.25	0.027	43.00	0.011	84	0.006
-1.00	0.067	9.25	0.069	19.50	0.034	44.00	0.008	85	0.008
-0.75	0.191	9.50	0.080	19.75	0.036	45.00	0.016	86	0.010
-0.50	0.356	9.75	0.079	20.00	0.032	46.00	0.006	87	0.011
-0.25	0.530	10.00	0.066	20.25	0.024	47.00	0.011	88	0.012
0.00	0.697	10.25	0.045	20.50	0.013	48.00	0.015	89	0.013
								90	0.013



Micro Communications, Inc.

P.O. Box 4365 Manchester, NH 03108-4365

Tel: 800-545-0608

FAX: 603-624-4822

TABLE I
COMPUTED COVERAGE DATA
FOR THE PROPOSED DTV OPERATION OF
KSFX-DT, SPRINGFIELD, MISSOURI
CHANNEL 28 1000 KW 493 METERS HAAT
JANUARY 2007

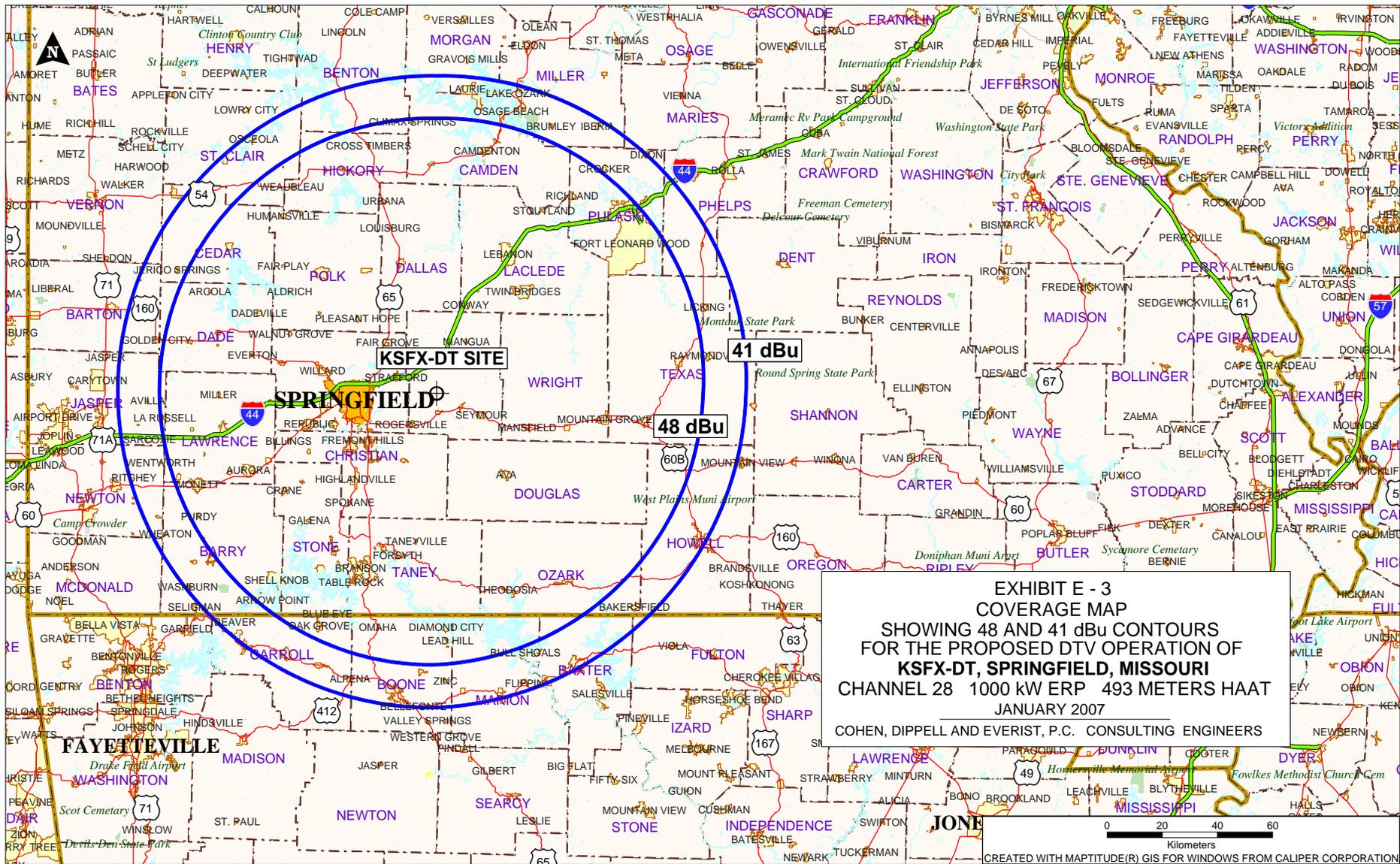
<u>Radial Bearing</u> N ° E, T	<u>Average*</u> <u>Elevation</u> <u>3.2 to 16.1 km</u> <u>meters</u>	<u>Effective Height</u> <u>meters</u>	<u>Depression Angle</u>	<u>ERP At Radio Horizon</u> <u>kW</u>	<u>Distance to Contour F(50,90)</u>	
					<u>48 dBu City Grade</u> <u>km</u>	<u>41 dBu Noise-Limited</u> <u>km</u>
0	431.6	501.4	0.620	1000	99.3	114.6
45	430.7	502.3	0.621	1000	99.3	114.6
90	468.2	464.8	0.597	1000	96.3	111.8
135	478.4	454.6	0.591	1000	95.6	111.0
180	448.3	484.7	0.610	1000	97.9	113.4
225	429.2	503.8	0.622	1000	99.5	114.7
270	417.0	516.0	0.629	1000	100.5	115.6
315	416.5	516.5	0.630	1000	100.5	115.6
Average	440.0	493.0				

*Based on data from FCC 3-second data base

DTV Channel 28 (554-560 MHz)
Average Elevation 3.2 to 16.1 km 440 meters AMSL
Center of Radiation 933 meters AMSL
Antenna Height Above Average Terrain 493 meters
Effective Radiated Power 1000 kW (30 dBk) Max.

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

(NAD-27)



KSFX-DT SITE

SPRINGFIELD

48 dBu

41 dBu



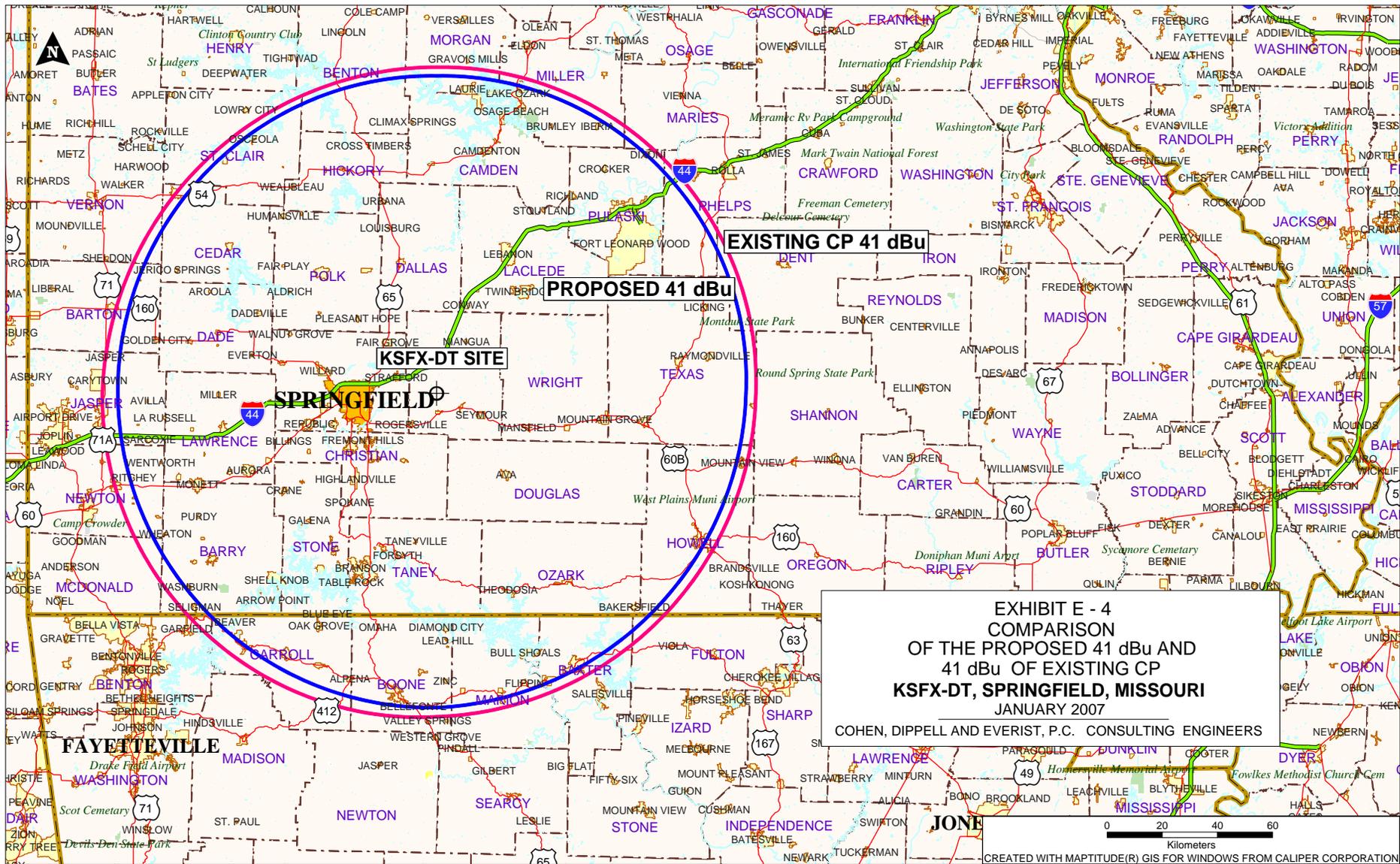


EXHIBIT E - 4
COMPARISON
OF THE PROPOSED 41 dBu AND
41 dBu OF EXISTING CP
KSFX-DT, SPRINGFIELD, MISSOURI
 JANUARY 2007
 COHEN, DIPPPELL AND EVERIST, P.C. CONSULTING ENGINEERS

CREATED WITH MAPTITUDE(R) GIS FOR WINDOWS FROM CALIPER CORPORATION

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.

- 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
----	--------------	-------

b. Electrical Beam Tilt: _____ degrees Not Applicable

c. Mechanical Beam Tilt: _____ 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 Martin R. Doczkat	Relationship to Applicant (e.g., Consulting Engineer) Consulting Engineer	
Signature 	Date January 11, 2007	
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	

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).