EXHIBIT E

ENGINEERING STATEMENT
APPLICATION FOR A DTV
CONSTRUCTION PERMIT FOR FLASHCUT FOR
AN EXISTING LOW-POWER TELEVISION STATION
K44GG, MURDO, SOUTH DAKOTA
CHANNEL 44 0.144 KW ERP 825.7 METERS RC/AMSL

JULY 2015

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 1420 N Street, N.W., Suite One, 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 29th day of July, 2015.

CAROLYN E. KNOX NOTARY PUBLIC DISTRICT OF COLUMBIA 02-28-2018

Notary Public

My Commission Expires: 2/28/2018

Introduction

This engineering statement has been prepared on behalf of Red River Broadcast Co., LLC, licensee of low-power television station, K44GG, Murdo, South Dakota. This statement supports the licensee's request to convert to DTV operation on the currently licensed analog Channel 44, commonly referred to as "flash-cut" with a DTV effective radiated power ("ERP") of 0.144 kW at a radiation center above mean sea level ("RCAMSL") of 825.7 meters. The FCC staff indicates that the application does not require Canadian concurrence.

Transmitter Site

The existing antenna will be utilized and no significant alteration of the tower is proposed or necessary. The existing tower is located approximately 4 miles north-northeast of Murdo, South Dakota. There is no change in transmitter site.

The geographic coordinates of the site follow below:

North Latitude: 43º 56' 16"

West Longitude: 100º 40' 42"

NAD-27

Based on ASRN 1050668:

North Latitude: 43° 56' 16.0"

West Longitude: 100° 40' 43.0"

NAD-83

ELEVATION DATA

Elevation of site above mean sea level	765.7 meters (2512 feet)
Center of radiation of antenna above ground level	60 meters (196.9 feet)
Center of radiation of antenna above mean sea level	825.7 meters (2709 feet)
Overall height of tower above ground level	111.3 meters (365 feet)

The Antenna Structure Registration Number ("ASRN") for the existing tower is 1050668 as indicated above.

Equipment Data

Transmitter:	Type-approved
Transmission Line:	Andrew, Type HJ7-50A, 1-5/8", 83.8 meters (275 feet) with 68% efficiency
Antenna:	Andrew, AL8 with maximum gain of 9.18 dB and 1.75° electrical beam tilt

Power Data

Transmitter:	0.025 kW	-16.02 dBk
Transmission Line Loss:	0.008 kW	-1.675%
Emission Mask:	Simple	
Input Into Antenna:	0.017 kW	-17.6 dBk
Antenna Gain:	8.27	9.18 dB

ERP: 0.144 kW -8.42 dBk

As indicated above, the transmitter with typical power output of 0.025 kW will deliver 0.017 kW to the input of the antenna. The antenna, having a maximum gain of 9.18 dB and an electrical beam tilt of 1.75°, will produce maximum ERP of 0.144 kW. A map providing the protected contour of the proposed facility compared to the currently licensed operation of K44GG has been included as Exhibit E-2 of this report.

Other Broadcast Facilities

A brief analysis was completed to determine the presence of stations in the vicinity of the K44GG tower using the June 24, 2015 data contained within the Commission's Consolidated Database System ("CDBS"). Within 500 meters of the proposed site, there is one authorized FM radio station, KSJW(FM) as permitted by the outstanding construction permit BNPH-20120829AKN, no authorized DTV and NTSC television station, and no authorized low-power analog television or television translator stations aside from K44GG. There are no AM facilities within 3.2 km of the existing tower. Although no adverse technical affects are expected due to the proposed changes, the licensee will take measures to resolve any problems proven to be related to the changes proposed in this application.

Interference Analysis

A study of predicted interference caused by the proposed K44GG low-power digital operation has been performed using the Longley-Rice program for which the source data has been posted by the Commission on its website at http://www.fcc.gov/oet/dtv/dtv_apps.html. The FCC's FORTRAN-77 code was modified only to the extent necessary (primarily input/output

handling) for the program to run on a Microsoft Windows XP/Intel platform. Comparison of service/interference areas and population indicates this model closely matches the FCC's digital low-power TV/translator evaluation program. Best efforts have been made to use data and calculation identical to the FCC's program. The model employs the Longley-Rice propagation methodology and evaluates in grid cells of approximately 1 sq. km. Using 3-second terrain data sampled approximately every 1.0 km at one-degree azimuth intervals with 2000 census centroids, all studies are based upon data in the current CDBS database update of the FCC's engineering database. A Longley-Rice study was performed with the proposed K44GG low-power digital facilities and all relevant stations listed in the FCC database as of June 10, 2015. The Longley-Rice study analysis and the included stations are listed in Table I.

Other Licensed and Broadcast Facilities

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

FCC Rule, Section 1.1307

Pursuant to OET Bulletin No. 65 dated August 1997, these non-broadcast stations are all exempt from RFF evaluations for the following reason:

Station	Licensed Under Part No.	Reason for Exemption
	Part 74, Subpart F	Subpart F Exempt
	Part 90	Antenna Height > 10 meters
	Part 90	ERP < 1000 watts
	Part 74, Subpart F	Subpart F Exempt

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

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

where:

S = power density in μW/cm²
F = relative field factor
Total ERP = ERP Horizontal Polarization + ERP Vertical Polarization
R = RCAGL - 2 meters

ERP = RMS ERP in watts for DTV Stations

ERP = $[0.4\ ERP_V + ERP_A]$ for NTSC Stations
ERP_V = peak visual ERP in watts
ERP_A = RMS aural ERP in watts

The proposed 0.144 kW non-directional operation will utilize an Andrew, Type AL8 antenna (or equivalent) described above with a center of radiation above ground of 60 meters. The proposed antenna is side-mounted on an existing tower with an overall height of 111.3 meters above ground. The proposed digital operation of K44GG will create a radiofrequency field level of 0.1 μW/cm^2 at the base of the tower. This level is less than 0.1% of the Maximum Permissible Exposure ("MPE") limit for the general population and uncontrolled environment. Therefore, the MPE change from analog to digital will not be significant.

As noted above, KSJW(FM) holds an outstanding construction permit (FCC File No. BNPH-20120529AKN which permits operation on Channel 265C2 and an ERP of 28 kW (H&V) at an HAAT of 204 meters. The antenna center of radiation of 101 meters above ground and using an assumed field value of 0.2 the authorized operation will create a field level of less

than 10 μW/cm² at the base of the tower. This is less than 5% of the uncontrolled limit for the general population based on the current FCC guideline of 200 μW/cm².

Authorized personnel and rigging contractors will be alerted to the potential zone of high field levels 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 or near 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 licensee 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 located on a tower which was built prior to the adoption of WT Docket No. 03-128 and is grandfathered and has not affected 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 contained in OET Bulletin No. 65, Edition 97-01, dated August 1997 and Supplement A.

COHEN, DIPPELL AND EVERIST, P.C.

TABLE I
LONGLEY-RICE INTERFERENCE ANALYSIS
FOR THE PROPOSED OPERATION OF
K44GG, MURDO, SOUTH DAKOTA
CHANNEL 44 0.144 KW ERP 825.7 METERS RCAMSL
JULY 2015

N 43° 56' 16"
W 100° 40' 42"

Channel	Call	City/State	Dist(km)	Status	FCC File No.	Result
43	K43OO-D	DRAPER SD	22	CP	BNPDTL-20100510AIT	No interference
43	NEW	RAPID CITY SD	205.4	APP	BNPTTL-20000831BSQ	0.00%
44	NEW	NORFOLK NE	343.2	APP	BDISDTL-20110922ACR	No interference
44	K44KV-D	ELK POINT SD	341.2	CP	BNPDTL-20100505AEV	0.00%
44	K44MA-D	PHILIP SD	102.9	CP	BNPDTL-20100510AHO	No interference
44	K44MB-D	PLANKINTON SD	181	CP	BNPDTL-20100510AJF	No interference
44	NEW	RAPID CITY SD	204.5	APP	BNPTTL-20000828AHR	No interference
44	K44KU-D	ROSHOLT SD	373.4	CP	BNPDTL-20100505ADT	No interference
44	KCWS-LP	SIOUX FALLS SD	319.2	LIC	BLTTL-19901218JK	0.00%
45	K45MY-D	DRAPER SD	22	CP	BNPDTL-20100510AIU	No interference
45	NEW	RAPID CITY SD	205.9	APP	BNPTTL-20000831BPA	0.00%

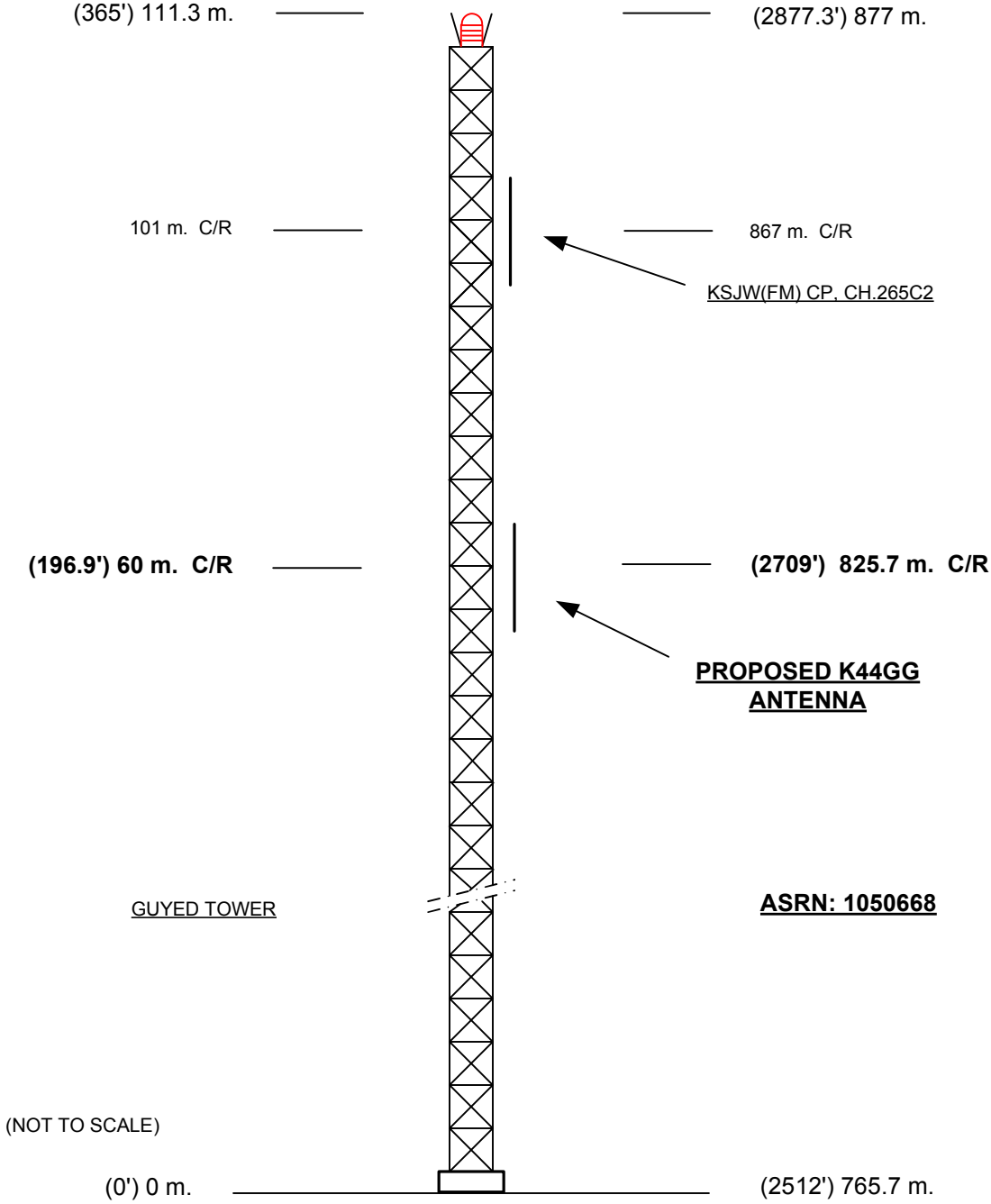

EXHIBIT E - 1
VERTICAL SKETCH
FOR THE LPTV OPERATION OF
K44GG TX, MURDO, SOUTH DAKOTA
JULY 2015

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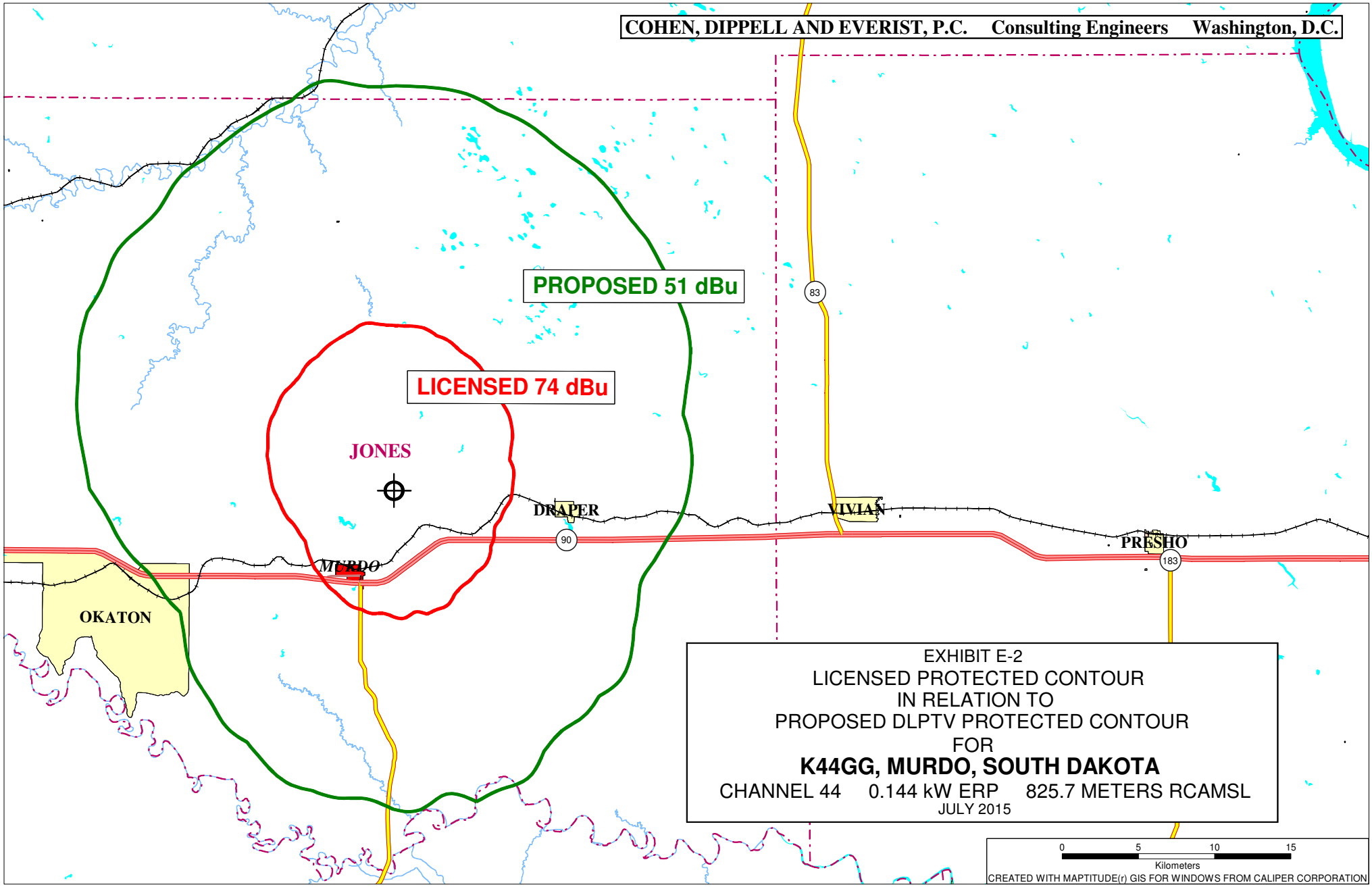
COHEN, DIPPELL AND EVERIST, P.C. Consulting Engineers Washington, D.C.
PROPOSED 51 dBu
LICENSED 74 dBu
JONES
DRAPER
VIVIAN
PRESHO
MURDO
OKATON
83
90
183
EXHIBIT E-2
LICENSED PROTECTED CONTOUR
IN RELATION TO
PROPOSED DLPTV PROTECTED CONTOUR
FOR
K44GG, MURDO, SOUTH DAKOTA
CHANNEL 44 0.144 kW ERP 825.7 METERS RCAMSL
JULY 2015
0 5 10 15
Kilometers
CREATED WITH MAPTITUDE(r) GIS FOR WINDOWS FROM CALIPER CORPORATION