

KUDE(FM)
Nephi, UT
Proposed Minor Modification
Of Licensed Facility

Application Overview:

KUDE(FM) (FCC Facility ID# 72769) proposes a one-step upgrade from Channel 256A to Channel 256C1 and modify its currently Licensed Facilities using the following parameters:

Tech Box:

Channel:	256
Class:	C1
Antenna Coordinates:	N39-43-58.2, W111-56-34.6 (NAD 27)
Allotment Ref. Coordinates:	N39-39-09, W111-51-23 (NAD 27)
ASRN:	1210829
Tower Height AGL:	137.8 m
COR AMSL:	2050 m
COR AGL:	121 m
COR HAAT:	297 m
ERP:	100 kW
Directional Antenna:	No

Allotment Modifications:

Exhibit 1 is an allotment reference site channel spacings study for KUDE(FM) on Channel 256C1 at Nephi, UT, demonstrating that a one-step allotment site exists that is fully

spaced pursuant to Section 73.207 towards all other authorizations, allotments, and proposals from the following location:

Allotment Reference Coordinates: N39-39-09, W111-51-23 (NAD 27)

Allotment Site City-Grade Coverage:

In accordance with the city grade coverage requirements of Section 73.315, Exhibit 2 demonstrates that the proposed allotment site provides requisite coverage of KUDE(FM)'s community of license – Nephi, UT. As can be seen in the Exhibit, 100% of Nephi's community boundaries are encompassed by 70 dBu community contour. Also, no terrain obstructions are located between the antenna site and the community.

Suitable Allotment Reference Site:

In accordance with Note 1 to Section 73.3573, the allotment reference site is located at a suitable location and is not offshore, in a national or state park, on an airport or otherwise in an area which would necessarily present a hazard to air navigation. It is located at a constructed tower site assigned ASRN #1059001.

Antenna Site City-Grade Coverage:

Exhibit 4 demonstrates that the proposed facility's antenna site provides city grade coverage of KUDE(FM)'s community of license – Nephi, UT. As can be seen in the Exhibit, 100% of Nephi's community boundaries are encompassed by the F(50,50) 70 dBu contour of the proposed facility. Also, no major terrain obstructions are located between the antenna site and the community.

Interference Study (Requesting Section 73.215 Contour Protection):

Exhibit 5 is a channel spacings study from the proposed KUDE(FM) antenna site. It notes that the proposed KUDE(FM) antenna site would otherwise be slightly shortspaced to:

-KJMY(FM) Bountiful, UT 258C (see BLH-19880311KC)

-KBEE(FM) Salt Lake City, UT on 254C (see BMLH-20100723AVI)

Therefore, the applicant requests Section 73.215 contour protection processing.

KUDE(FM) is eligible to request 73.215 Contour Protection towards KJMY(FM) as it complies with the minimum separation requirements on its second adjacent channel at its proposed antenna site. The channel spacings study in Exhibit 5 shows that the proposed KUDE(FM) 256C1 antenna location is spaced 98.91 kilometers from the KJMY(FM) site. In order to be eligible for 73.215 Contour Protection, the minimum “C1 to C” spacing for second adjacent channel stations must be at least 98.5 kilometers. The proposed KUDE(FM) 256C1 antenna site satisfies this requirement by 0.41 kilometers.

Using the facilities proposed herein, KUDE(FM) 256C1 complies with the contour protection requirements of Section 73.215 towards KJMY(FM). The attached overlap tabulation studies and overlap map in Exhibit 5A demonstrates that this application complies with the contour protection requirements of Section 73.215.

In reviewing the attached studies, it should be noted that since KJMY(FM) does not utilize maximum Class C facilities, the following overlap studies were conducted assuming “Maximized” Class C Facilities for KJMY(FM) (100 kW at an HAAT of 600 meters).

Using the KUDE(FM) 256C1 technical parameters proposed in this application, Exhibit 5A demonstrates that the proposed KUDE(FM) F(50,50) 60 dBu Protected Contour does not overlap the F(50,10) 100 dBu Interfering Contour of KJMY(FM) operations on Channel 258C. Likewise, Exhibit 5A demonstrates that the F(50,50) 60 dBu Protected Contour for KJMY(FM) does not overlap the proposed F(50,10) 100 dBu Interfering Contour of the instant KUDE(FM) application on 256C1. Therefore, it appears as though the instant application meets the requirements of Section 73.215 towards KJMY(FM).

KUDE(FM) is eligible to request 73.215 Contour Protection towards KBEE(FM) as it complies with the minimum separation requirements on its second adjacent channel at its proposed antenna site. The channel spacings study in Exhibit 5 shows that the proposed KUDE(FM) antenna location is spaced 98.94 kilometers from the KBEE(FM) site. In order to be eligible for 73.215 Contour Protection, the minimum “C1 to C” spacing for second adjacent channel stations must be at least 98.5 kilometers. The proposed KUDE(FM) antenna site satisfies this requirement by 0.44 kilometers.

Using the facilities proposed herein, KUDE(FM) complies with the contour protection requirements of Section 73.215 towards KBEE(FM). The attached overlap tabulation studies and overlap map in Exhibit 5B demonstrates that this application complies with the contour protection requirements of Section 73.215.

In reviewing the attached studies, it should be noted that since KBEE(FM) does not utilize Class C maximum class facilities, the following overlap studies were conducted assuming “Maximized” Class C Facilities for KBEE(FM) (100 kW at an HAAT of 600 meters).

Using the KUDE(FM) technical parameters proposed in this application, Exhibit 5B demonstrates that the proposed KUDE(FM) F(50,50) 60 dBu Protected Contour does not overlap the F(50,10) 100 dBu Interfering Contour of KBEE(FM) operations on Channel 254C. Likewise, Exhibit 5B demonstrates that the F(50,50) 60 dBu Protected Contour for KBEE(FM) does not overlap the proposed F(50,10) 100 dBu Interfering Contour of the instant KUDE(FM) application on 256C1. Therefore, it appears as though the instant application meets the requirements of Section 73.215 towards KBEE(FM).

Downward Radiation Study (FM Model):

The proposed FM Facility has been evaluated in terms of potential radiofrequency electromagnetic field exposure at ground level in accordance with OET Bulletin No. 65, Evaluating Compliance with FCC Specified Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields (OET Bulletin 65, Second Edition 97-01, August, 1997). The Commission’s FM Model Power Density Prediction program was employed to determine the Field. Using the EPA Type 3: Opposed U Dipole antenna with 10 sections and 1 wavelength spacing, and the AGL height and ERP proposed in this application, the highest predicted power density 2 meters above ground is less than 12.2% of the Uncontrolled Standard with a Power Density of 24.3 microwatts per square centimeter 28.8 meters from the base of the tower.

Even though the site will fully comply with the Uncontrolled Site Standards, access to the transmitting site will be restricted and appropriately marked with warning signs. When it becomes necessary for workers to ascend the tower, appropriate measures, such as reduction or shut down of power if necessary, shall be taken to ensure that the human exposure to radiofrequency radiation will not exceed the FCC guidelines.

Existing Tower:

The proposed facility is exempt from environmental processing because the facility is not located at a location specified in Section 1.1307(a)(1)-(8) of the Commission's Rules and since the tower in question already exists.

Exhibit 1

Allotment Reference Site Channel Spacings Study

ADD 256C1 Nephi, UT
 Allotment Site Section 73.207 Spacings

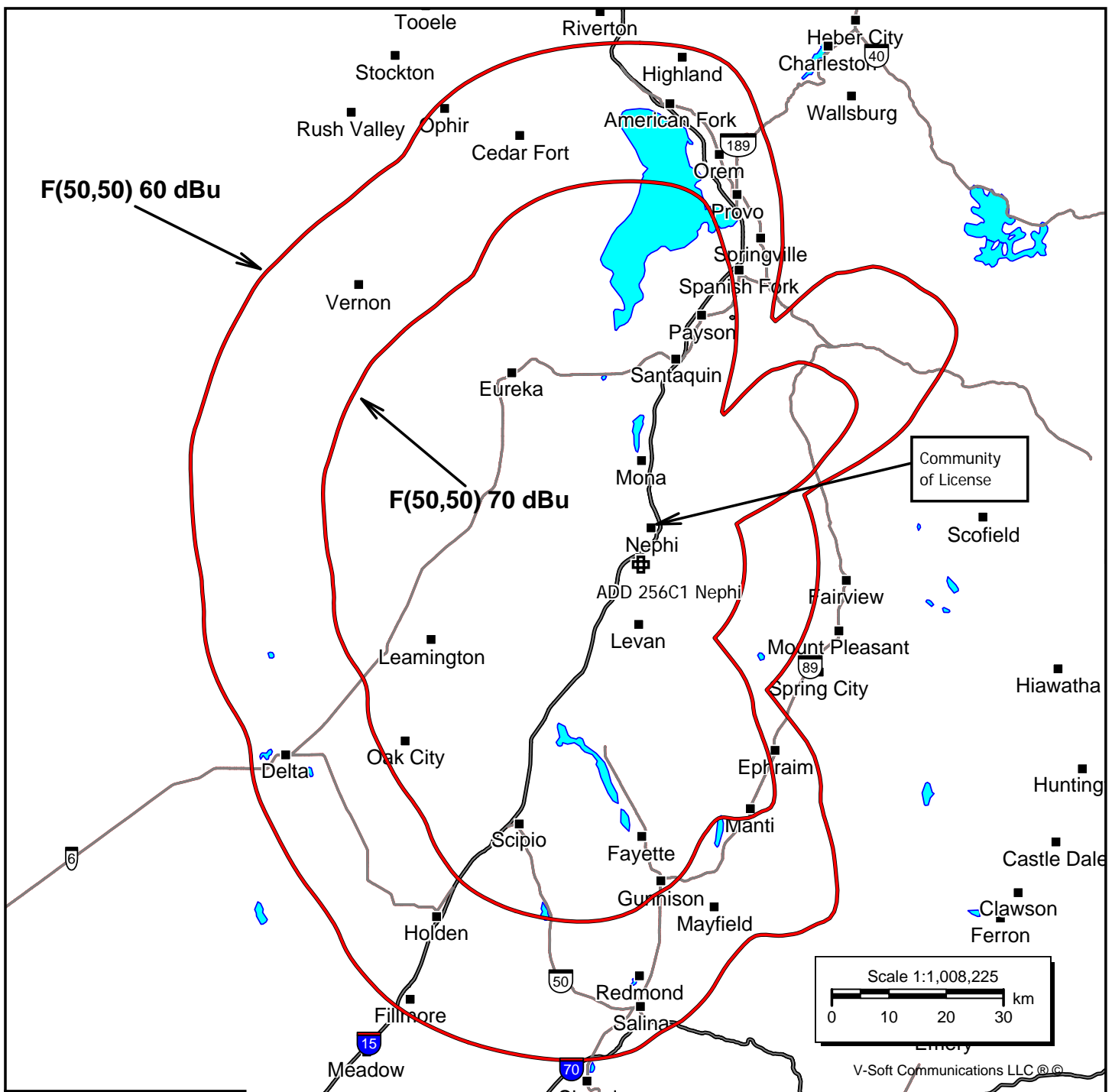
REFERENCE	CLASS = C1	DISPLAY DATES
39 39 09.0 N.		DATA 11-04-16
111 51 23.0 W.	Current Spacings to 3rd Adj.	SEARCH 11-19-16
----- Channel 256 - 99.1 MHz -----		

Call	Channel	Location		Azi	Dist	FCC	Margin
AL9950	RSV-A 256C	Nephi	UT	63.3	26.76	269.5	-242.7
KUDE	LIC 256A	Nephi	UT	320.3	11.60	199.5	-187.9
Of Note: Instant facility proposing one-step upgrade.							
KNYN	LIC 256C1	Fort Bridger	WY	22.7	205.23	244.5	-39.3
Of No Concern: In MB Docket 02-290, Channel 256C1 was deleted at Fort Bridger, WY, and was replaced with Channel 280C1. As such, this entry need not be protected.							
KJMY	LIC 258C	Bountiful	UT	346.5	109.19	104.5	4.7
KBEE	LIC 254C	Salt Lake City	UT	346.5	109.22	104.5	4.7
KGNT	CP -N 256A	Smithfield	UT	1.3	239.89	199.5	40.4
AL2473	RSV-A 255C2	Naples	UT	61.3	214.32	157.5	56.8
AL2561	RSV-A 255C2	Naples	UT	61.3	214.32	157.5	56.8

 RSV-R = reserved - needs protection, RSV-A = allocation.
 All separation margins include rounding

Exhibit 2

Allotment Reference Site City-Grade Coverage Map



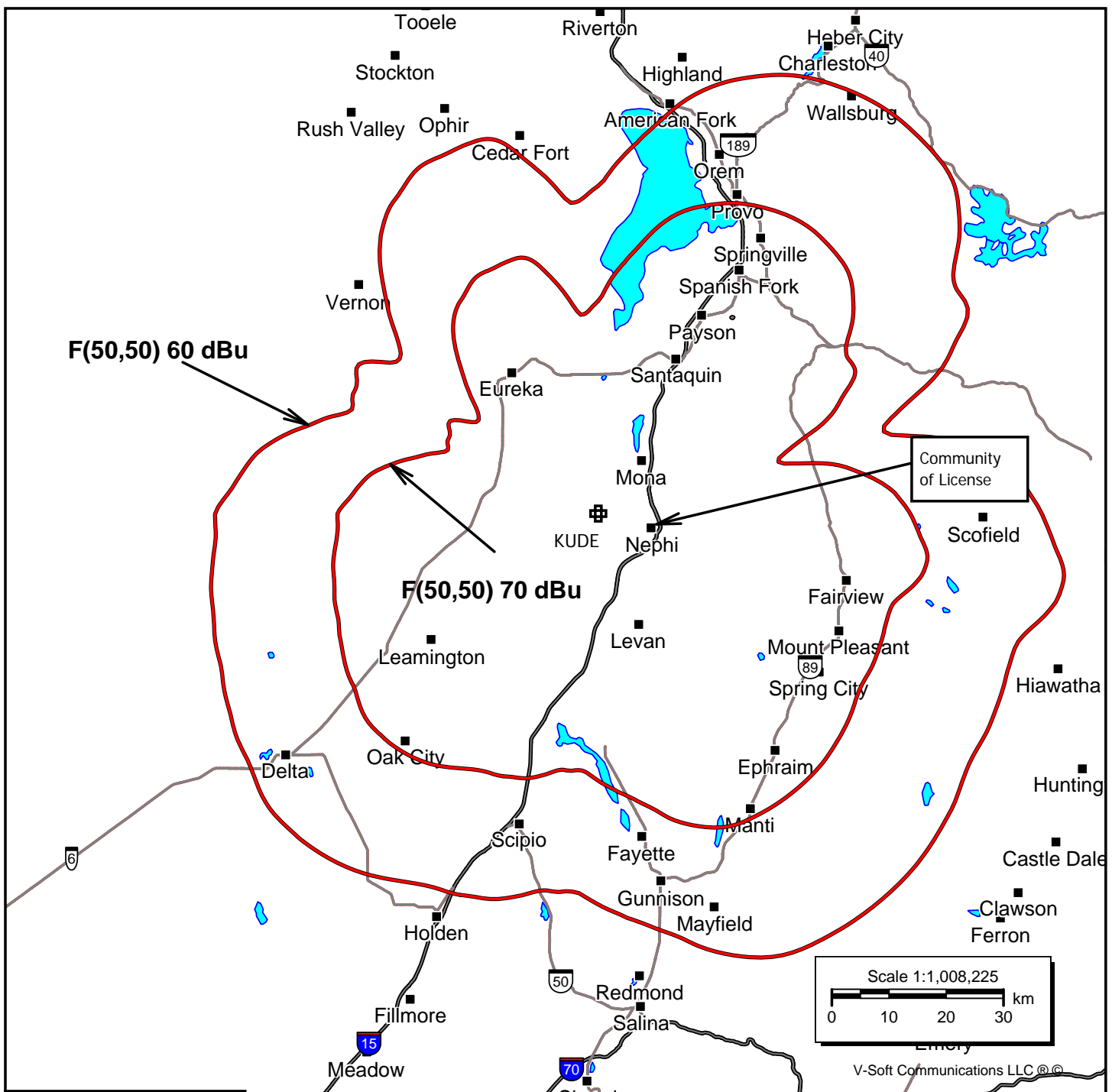
ADD 256C1 Nephi

Proposed Allotment Site
Channel: 256C1
Frequency: 99.1 MHz
Latitude: 39-39-09 N
Longitude: 111-51-23 W
COR AGL Height: 493.2 m
COR AMSL Height: 2108.2 m
Base Elevation: 1615.0 m
COR HAAT: 299.0 m
ERP: 100.00 kW
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

Exhibit 4

Proposed Antenna Site Contour Map:

**F(50,50) Protected Contour
F(50,50) City-Grade Contour**



KUDE

Proposed Antenna Site
Channel: 256C1
Frequency: 99.1 MHz
Latitude: 39-43-58.20 N
Longitude: 111-56-34.60 W
COR AGL Height: 121.0 m
COR AMSL Height: 2038.5 m
Base Elevation: 1917.5 m
COR HAAT: 296.76 m
ERP: 100.00 kW
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

V-Soft Communications LLC ©

Exhibit 5

Proposed Antenna Site Channel Spacings Study

KUDE(FM) 256C1 Nephi, UT
Antenna Site Section 73.207 Channel Spacings Study

REFERENCE	CLASS = C1	DISPLAY DATES
39 43 58.2 N.		DATA 11-04-16
111 56 34.6 W.	Current Spacings to 3rd Adj.	SEARCH 11-19-16
----- Channel 256 - 99.1 MHz -----		

Call	Channel	Location	Azt	Dist	FCC	Margin
AL9950	RSV-A 256C	Nephi	UT	84.3	31.49	269.5 -238.0
KUDE	LIC 256A	Nephi	UT	235.1	0.01	199.5 -199.5
KNYN	LIC 256C1	Fort Bridger	WY	25.6	200.14	244.5 -44.4

Of No Concern:

In MB Docket 02-290, Channel 256C1 was deleted in Fort Bridger, WY, and replaced with Channel 280C1. Thus, this entry is no longer protected.

KJMY	LIC	258C	Bountiful	UT	349.4	98.91	104.5	-5.6
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Of Note:

Applicant requests Section 73.215 Contour Protection Processing towards KJMY(FM).

KBEE	LIC	254C	Salt Lake City	UT	349.4	98.94	104.5	-5.6
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Of Note:

Applicant requests Section 73.215 Contour Protection Processing towards KBEE(FM).

KGNT	CP -N	256A	Smithfield	UT	3.1	231.26	199.5	31.8
AL2473	RSV-A	255C2	Naples	UT	64.2	216.86	157.5	59.4
AL2561	RSV-A	255C2	Naples	UT	64.2	216.86	157.5	59.4

RSV-R = reserved - needs protection, RSV-A = allocation.
All separation margins include rounding

Exhibit 5A

Section 73.215 Contour Overlap Tabulations and Contour Overlap Map

**KUDE(FM) 256C1
vs:
KJMY(FM) 258C**

11-19-2016

Terrain Data: NGDC 30 SEC

FMOver Analysis

KUDE

KJMY BLH19880311KC

(^ Max Class Parameters)

Channel = 256C1

Channel = 258C

Max ERP = 100 kW

Max ERP = 100 kW

RCAMSL = 2038.5 m

RCAMSL = 2311 m

N. Lat. 39 43 58.2

N. Lat. 40 36 29.0

W. Lng. 111 56 34.6

W. Lng. 112 09 33.0

Protected

Interfering

60 dBu

100 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
289.0	100.0000	0101.8	051.2	200.4	100.0000	0001.9	086.0	48.83	
290.0	100.0000	0095.6	050.0	199.6	100.0000	-0007.5	085.1	49.02	
291.0	100.0000	0089.5	048.8	198.7	100.0000	-0020.4	084.3	49.19	
292.0	100.0000	0084.4	047.7	198.0	100.0000	-0032.4	083.5	49.35	
293.0	100.0000	0081.9	047.2	197.6	100.0000	-0037.8	082.7	49.51	
294.0	100.0000	0082.7	047.3	197.6	100.0000	-0037.0	081.9	49.68	
295.0	100.0000	0085.0	047.8	197.9	100.0000	-0033.4	081.0	49.86	
296.0	100.0000	0086.3	048.1	198.0	100.0000	-0031.8	080.2	50.03	
297.0	100.0000	0086.3	048.1	197.9	100.0000	-0033.1	079.3	50.19	
298.0	100.0000	0086.9	048.2	197.9	100.0000	-0033.1	078.5	50.36	
299.0	100.0000	0088.9	048.7	198.1	100.0000	-0030.4	077.6	50.53	
300.0	100.0000	0091.9	049.3	198.4	100.0000	-0025.2	076.6	50.71	
301.0	100.0000	0094.4	049.8	198.7	100.0000	-0021.5	075.7	50.89	
302.0	100.0000	0094.6	049.8	198.6	100.0000	-0023.3	074.8	51.05	
303.0	100.0000	0092.0	049.3	198.0	100.0000	-0031.9	074.1	51.18	
304.0	100.0000	0087.1	048.3	197.1	100.0000	-0044.2	073.6	51.27	
305.0	100.0000	0081.1	047.0	195.9	100.0000	-0055.9	073.2	51.35	
306.0	100.0000	0075.3	045.7	194.8	100.0000	-0061.7	072.8	51.41	
307.0	100.0000	0071.9	044.9	193.9	100.0000	-0065.0	072.4	51.49	
308.0	100.0000	0071.4	044.8	193.6	100.0000	-0066.5	071.7	51.61	
309.0	100.0000	0073.2	045.2	193.7	100.0000	-0066.3	070.8	51.76	
310.0	100.0000	0076.9	046.1	194.0	100.0000	-0064.9	069.8	51.96	
311.0	100.0000	0082.4	047.3	194.6	100.0000	-0062.4	068.5	52.19	
312.0	100.0000	0089.3	048.7	195.4	100.0000	-0058.8	067.1	52.44	
313.0	100.0000	0096.4	050.2	196.2	100.0000	-0054.0	065.7	52.70	
314.0	100.0000	0103.9	051.6	196.9	100.0000	-0046.1	064.3	52.97	
315.0	100.0000	0112.1	053.0	197.7	100.0000	-0036.3	062.8	53.25	
316.0	100.0000	0121.0	054.4	198.4	100.0000	-0025.7	061.3	53.54	
317.0	100.0000	0130.7	055.8	199.2	100.0000	-0013.4	059.8	53.84	
318.0	100.0000	0140.9	057.2	200.0	100.0000	-0002.9	058.3	54.16	
319.0	100.0000	0150.7	058.6	200.6	100.0000	0005.0	056.8	54.48	
320.0	100.0000	0159.9	059.7	201.2	100.0000	0011.4	055.3	54.79	
321.0	100.0000	0169.2	060.8	201.6	100.0000	0017.1	053.9	55.10	
322.0	100.0000	0178.9	061.8	202.0	100.0000	0022.1	052.5	55.41	
323.0	100.0000	0188.3	062.7	202.3	100.0000	0025.2	051.1	55.71	
324.0	100.0000	0197.2	063.5	202.4	100.0000	0027.5	049.7	56.00	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
325.0	100.0000	0205.2	064.3	202.5	100.0000	0028.3	048.4	56.30
326.0	100.0000	0211.5	064.9	202.4	100.0000	0026.5	047.1	56.58
327.0	100.0000	0215.5	065.3	201.9	100.0000	0021.2	045.9	56.85
328.0	100.0000	0219.5	065.6	201.5	100.0000	0015.3	044.8	57.14
329.0	100.0000	0225.0	066.1	201.1	100.0000	0010.4	043.6	57.47
330.0	100.0000	0231.4	066.7	200.7	100.0000	0006.0	042.3	57.83
331.0	100.0000	0237.8	067.2	200.3	100.0000	0000.9	041.1	58.20
332.0	100.0000	0243.3	067.7	199.7	100.0000	-0006.4	039.9	58.56
333.0	100.0000	0246.8	068.0	198.8	100.0000	-0019.4	038.8	58.91
334.0	100.0000	0248.1	068.1	197.7	100.0000	-0036.6	037.9	59.21
335.0	100.0000	0248.0	068.1	196.3	100.0000	-0052.8	037.1	59.48
336.0	100.0000	0247.1	068.0	194.8	100.0000	-0061.4	036.4	59.73
337.0	100.0000	0246.6	068.0	193.3	100.0000	-0068.5	035.7	59.98
338.0	100.0000	0247.0	068.0	191.7	100.0000	-0087.0	035.0	60.23
339.0	100.0000	0247.8	068.1	190.2	100.0000	-0098.5	034.3	60.49
340.0	100.0000	0248.1	068.1	188.4	100.0000	-0080.8	033.7	60.72
341.0	100.0000	0248.2	068.1	186.6	100.0000	-0055.0	033.1	60.93
342.0	100.0000	0248.2	068.1	184.8	100.0000	-0016.6	032.6	61.11
343.0	100.0000	0247.1	068.0	182.7	100.0000	0047.8	032.3	64.92
344.0	100.0000	0243.0	067.7	180.6	100.0000	0099.0	032.2	71.17
345.0	100.0000	0235.2	067.0	178.3	100.0000	0151.6	032.6	74.65
346.0	100.0000	0223.6	066.0	175.9	100.0000	0214.1	033.3	77.28
347.0	100.0000	0208.3	064.6	173.7	100.0000	0256.3	034.6	78.23
348.0	100.0000	0192.8	063.1	171.7	100.0000	0255.9	035.9	77.56
349.0	100.0000	0177.8	061.7	169.9	100.0000	0260.4	037.3	77.06
350.0	100.0000	0165.6	060.4	168.3	100.0000	0274.6	038.6	76.91
351.0	100.0000	0154.4	059.0	166.9	100.0000	0291.2	040.0	76.78
352.0	100.0000	0143.3	057.6	165.6	100.0000	0306.8	041.6	76.56
353.0	100.0000	0132.3	056.0	164.5	100.0000	0322.5	043.2	76.32
354.0	100.0000	0122.5	054.6	163.6	100.0000	0337.3	044.8	76.11
355.0	100.0000	0116.0	053.6	162.7	100.0000	0352.5	045.9	76.11
356.0	100.0000	0116.5	053.7	161.5	100.0000	0369.4	046.1	76.54
357.0	100.0000	0119.3	054.1	160.2	100.0000	0392.4	045.9	77.23
358.0	100.0000	0124.6	054.9	158.8	100.0000	0423.3	045.5	78.18
359.0	100.0000	0130.0	055.7	157.3	100.0000	0445.8	045.1	78.88
000.0	100.0000	0135.3	056.4	155.8	100.0000	0463.6	044.7	79.41
001.0	100.0000	0142.8	057.5	154.1	100.0000	0486.5	044.2	80.12
002.0	100.0000	0154.7	059.1	151.9	100.0000	0513.8	043.3	81.04
003.0	100.0000	0168.0	060.7	149.6	100.0000	0541.3	042.5	81.90
004.0	100.0000	0182.3	062.1	147.3	100.0000	0564.1	041.9	82.56
005.0	100.0000	0196.7	063.5	145.0	100.0000	0586.4	041.6	83.11
006.0	100.0000	0210.6	064.8	142.6	100.0000	0606.9	041.3	83.54
007.0	100.0000	0227.2	066.3	140.0	100.0000	0628.6	041.1	83.98
008.0	100.0000	0243.1	067.7	137.5	100.0000	0646.4	041.1	84.25
009.0	100.0000	0260.3	069.1	134.9	100.0000	0660.4	041.1	84.42
010.0	100.0000	0278.5	070.6	132.2	100.0000	0671.3	041.3	84.51
011.0	100.0000	0297.5	072.2	129.4	100.0000	0679.7	041.6	84.49
012.0	100.0000	0315.1	073.5	127.0	100.0000	0686.9	042.1	84.36
013.0	100.0000	0331.6	074.7	124.8	100.0000	0693.5	042.8	84.15
014.0	100.0000	0346.8	075.8	122.8	100.0000	0699.1	043.7	83.88
015.0	100.0000	0360.3	076.8	121.1	100.0000	0703.6	044.7	83.54

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
016.0	100.0000	0373.5	077.8	119.5	100.0000	0707.3	045.7	83.17
017.0	100.0000	0385.2	078.7	118.0	100.0000	0710.3	046.9	82.76
018.0	100.0000	0395.7	079.4	116.8	100.0000	0713.2	048.1	82.34
019.0	100.0000	0405.6	080.2	115.7	100.0000	0716.2	049.4	81.92
020.0	100.0000	0415.5	080.9	114.7	100.0000	0719.3	050.7	81.47
021.0	100.0000	0425.1	081.6	113.8	100.0000	0722.1	052.1	81.00
022.0	100.0000	0434.3	082.3	113.1	100.0000	0724.5	053.5	80.51
023.0	100.0000	0442.7	082.9	112.4	100.0000	0726.3	054.9	80.01
024.0	100.0000	0450.0	083.4	111.9	100.0000	0727.7	056.4	79.49
025.0	100.0000	0456.4	083.9	111.5	100.0000	0728.6	057.9	78.97
026.0	100.0000	0462.1	084.3	111.2	100.0000	0729.3	059.4	78.45
027.0	100.0000	0467.2	084.6	111.0	100.0000	0729.7	060.9	77.93
028.0	100.0000	0472.0	085.0	110.8	100.0000	0729.9	062.4	77.42
029.0	100.0000	0476.4	085.3	110.8	100.0000	0730.1	063.9	76.92
030.0	100.0000	0480.6	085.5	110.7	100.0000	0730.1	065.4	76.44
031.0	100.0000	0484.4	085.8	110.7	100.0000	0730.1	067.0	75.96
032.0	100.0000	0487.9	086.0	110.8	100.0000	0730.0	068.5	75.49
033.0	100.0000	0491.0	086.2	110.9	100.0000	0729.9	070.0	75.03
034.0	100.0000	0493.3	086.3	111.0	100.0000	0729.6	071.5	74.56
035.0	100.0000	0495.1	086.4	111.2	100.0000	0729.2	073.0	74.11
036.0	100.0000	0496.1	086.5	111.5	100.0000	0728.7	074.5	73.65
037.0	100.0000	0496.5	086.5	111.7	100.0000	0728.0	075.9	73.20
038.0	100.0000	0496.1	086.5	112.1	100.0000	0727.2	077.4	72.74
039.0	100.0000	0495.1	086.4	112.4	100.0000	0726.3	078.8	72.29
040.0	100.0000	0493.7	086.3	112.8	100.0000	0725.3	080.2	71.84
041.0	100.0000	0492.0	086.2	113.2	100.0000	0724.2	081.6	71.38
042.0	100.0000	0490.3	086.1	113.6	100.0000	0723.0	083.0	70.93
043.0	100.0000	0488.5	086.0	114.0	100.0000	0721.8	084.4	70.47
044.0	100.0000	0486.2	085.9	114.4	100.0000	0720.4	085.8	70.01
045.0	100.0000	0482.9	085.7	114.9	100.0000	0719.0	087.1	69.56
046.0	100.0000	0478.4	085.4	115.4	100.0000	0717.3	088.4	69.13
047.0	100.0000	0472.1	085.0	116.0	100.0000	0715.6	089.7	68.71
048.0	100.0000	0463.4	084.4	116.6	100.0000	0713.7	090.9	68.31

11-19-2016

Terrain Data: NGDC 30 SEC

FMOver Analysis

KJMY BLH19880311KC

KUDE

(^ Max Class Parameters)

Channel = 258C

Channel = 256C1

Max ERP = 100 kW

Max ERP = 100 kW

RCAMSL = 2311 m

RCAMSL = 2038.5 m

N. Lat. 40 36 29.0

N. Lat. 39 43 58.2

W. Lng. 112 09 33.0

W. Lng. 111 56 34.6

Protected

Interfering

60 dBu

100 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
109.0	100.0000	0732.4	096.9	048.2	100.0000	0461.3	098.4	61.16	
110.0	100.0000	0731.2	096.9	048.7	100.0000	0456.3	096.9	61.46	
111.0	100.0000	0729.7	096.8	049.1	100.0000	0451.0	095.4	61.75	
112.0	100.0000	0727.4	096.7	049.5	100.0000	0445.6	093.9	62.06	
113.0	100.0000	0724.6	096.6	049.9	100.0000	0440.3	092.3	62.37	
114.0	100.0000	0721.7	096.5	050.4	100.0000	0435.1	090.8	62.70	
115.0	100.0000	0718.5	096.4	050.8	100.0000	0430.1	089.2	63.05	
116.0	100.0000	0715.4	096.3	051.1	100.0000	0425.0	087.6	63.40	
117.0	100.0000	0712.7	096.2	051.5	100.0000	0419.7	086.1	63.75	
118.0	100.0000	0710.4	096.1	052.0	100.0000	0414.1	084.5	64.09	
119.0	100.0000	0708.2	096.0	052.4	100.0000	0408.1	082.9	64.43	
120.0	100.0000	0706.0	095.9	052.8	100.0000	0401.7	081.4	64.76	
121.0	100.0000	0703.8	095.8	053.2	100.0000	0394.9	079.8	65.08	
122.0	100.0000	0701.3	095.7	053.5	100.0000	0387.9	078.2	65.40	
123.0	100.0000	0698.7	095.6	053.9	100.0000	0381.0	076.6	65.73	
124.0	100.0000	0695.9	095.5	054.3	100.0000	0374.2	075.0	66.07	
125.0	100.0000	0692.9	095.4	054.6	100.0000	0367.7	073.4	66.42	
126.0	100.0000	0690.0	095.3	055.0	100.0000	0361.8	071.8	66.80	
127.0	100.0000	0687.0	095.2	055.3	100.0000	0356.3	070.2	67.19	
128.0	100.0000	0684.0	095.0	055.6	100.0000	0351.4	068.5	67.61	
129.0	100.0000	0681.0	094.9	056.0	100.0000	0347.2	066.9	68.05	
130.0	100.0000	0678.0	094.8	056.3	100.0000	0343.6	065.3	68.51	
131.0	100.0000	0675.0	094.7	056.6	100.0000	0340.7	063.7	69.00	
132.0	100.0000	0671.8	094.6	056.8	100.0000	0338.5	062.0	69.52	
133.0	100.0000	0668.2	094.4	057.1	100.0000	0336.9	060.4	70.07	
134.0	100.0000	0664.2	094.3	057.3	100.0000	0335.9	058.8	70.64	
135.0	100.0000	0659.8	094.1	057.5	100.0000	0335.3	057.1	71.24	
136.0	100.0000	0654.9	093.9	057.7	100.0000	0334.9	055.5	71.86	
137.0	100.0000	0649.3	093.7	057.8	100.0000	0334.8	053.8	72.49	
138.0	100.0000	0643.0	093.5	057.8	100.0000	0334.7	052.2	73.12	
139.0	100.0000	0636.0	093.2	057.8	100.0000	0334.7	050.5	73.76	
140.0	100.0000	0628.4	092.9	057.8	100.0000	0334.8	048.9	74.40	
141.0	100.0000	0620.3	092.6	057.6	100.0000	0335.0	047.2	75.05	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
142.0	100.0000	0611.9	092.3	057.5	100.0000	0335.4	045.6	75.72
143.0	100.0000	0603.4	091.9	057.2	100.0000	0336.3	044.0	76.42
144.0	100.0000	0594.9	091.6	056.9	100.0000	0337.9	042.3	77.16
145.0	100.0000	0586.0	091.3	056.5	100.0000	0341.0	040.7	77.95
146.0	100.0000	0576.7	090.9	056.0	100.0000	0346.6	039.1	78.81
147.0	100.0000	0567.0	090.5	055.3	100.0000	0356.0	037.5	79.80
148.0	100.0000	0557.2	090.0	054.5	100.0000	0370.3	036.0	80.91
149.0	100.0000	0547.5	089.5	053.5	100.0000	0389.1	034.5	82.12
150.0	100.0000	0537.3	088.9	052.2	100.0000	0410.5	033.0	83.38
151.0	100.0000	0525.6	088.2	050.5	100.0000	0432.8	031.6	84.60
152.0	100.0000	0512.7	087.5	048.6	100.0000	0457.5	030.2	85.82
153.0	100.0000	0500.0	086.7	046.4	100.0000	0476.4	028.9	86.87
154.0	100.0000	0487.4	086.0	043.9	100.0000	0486.4	027.8	87.76
155.0	100.0000	0474.3	085.1	041.1	100.0000	0491.8	026.7	88.53
156.0	100.0000	0461.1	084.2	037.9	100.0000	0496.2	025.7	89.21
157.0	100.0000	0449.6	083.4	034.6	100.0000	0494.5	024.9	89.76
158.0	100.0000	0437.1	082.5	031.0	100.0000	0484.3	024.2	90.06
159.0	100.0000	0419.7	081.2	026.5	100.0000	0464.5	023.9	89.94
160.0	100.0000	0397.7	079.6	021.4	100.0000	0428.4	024.1	89.09
161.0	100.0000	0378.1	078.1	016.7	100.0000	0381.7	024.4	87.76
162.0	100.0000	0362.2	077.0	012.6	100.0000	0324.4	024.6	86.10
163.0	100.0000	0347.4	075.9	008.7	100.0000	0254.4	025.0	83.81
164.0	100.0000	0331.0	074.7	004.8	100.0000	0194.5	025.5	81.15
165.0	100.0000	0315.6	073.5	001.3	100.0000	0146.6	026.2	78.14
166.0	100.0000	0301.9	072.5	358.1	100.0000	0125.3	026.9	76.30
167.0	100.0000	0289.4	071.5	355.2	100.0000	0115.8	027.7	75.16
168.0	100.0000	0277.4	070.5	352.4	100.0000	0138.3	028.5	76.12
169.0	100.0000	0267.7	069.7	350.0	100.0000	0166.1	029.3	77.34
170.0	100.0000	0259.5	069.0	347.6	100.0000	0198.4	030.0	78.43
171.0	100.0000	0255.9	068.7	345.4	100.0000	0231.1	030.4	79.53
172.0	100.0000	0256.1	068.7	343.2	100.0000	0246.6	030.5	79.99
173.0	100.0000	0256.8	068.8	340.9	100.0000	0248.2	030.7	79.94
174.0	100.0000	0255.2	068.7	338.8	100.0000	0247.7	031.1	79.70
175.0	100.0000	0240.7	067.5	337.4	100.0000	0246.7	032.6	78.90
176.0	100.0000	0212.0	064.9	336.9	100.0000	0246.6	035.4	77.53
177.0	100.0000	0181.5	062.1	336.8	100.0000	0246.7	038.4	76.07
178.0	100.0000	0157.8	059.5	336.7	100.0000	0246.7	041.2	74.80
179.0	100.0000	0134.5	056.3	337.0	100.0000	0246.6	044.5	73.36
180.0	100.0000	0112.4	053.1	337.5	100.0000	0246.7	047.9	71.96
181.0	100.0000	0088.9	048.7	338.5	100.0000	0247.3	052.3	70.20
182.0	100.0000	0065.6	043.5	339.8	100.0000	0248.1	057.4	68.17
183.0	100.0000	0041.4	035.7	341.9	100.0000	0248.3	064.9	65.39
184.0	100.0000	0009.2	031.0	342.9	100.0000	0247.4	069.5	63.77
185.0	100.0000	-0024.3	031.0	342.5	100.0000	0248.0	069.7	63.72
186.0	100.0000	-0046.4	031.0	342.0	100.0000	0248.2	069.9	63.66
187.0	100.0000	-0059.0	031.0	341.6	100.0000	0248.3	070.1	63.58
188.0	100.0000	-0073.1	031.0	341.2	100.0000	0248.2	070.3	63.50
189.0	100.0000	-0088.5	031.0	340.9	100.0000	0248.2	070.6	63.41
190.0	100.0000	-0097.7	031.0	340.5	100.0000	0248.1	070.9	63.32
191.0	100.0000	-0095.2	031.0	340.1	100.0000	0248.1	071.1	63.23
192.0	100.0000	-0084.0	031.0	339.7	100.0000	0248.1	071.4	63.13

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
193.0	100.0000	-0070.9	031.0	339.4	100.0000	0248.0	071.7	63.03
194.0	100.0000	-0064.8	031.0	339.0	100.0000	0247.8	072.0	62.92
195.0	100.0000	-0060.6	031.0	338.7	100.0000	0247.5	072.3	62.80
196.0	100.0000	-0055.3	031.0	338.3	100.0000	0247.2	072.7	62.68
197.0	100.0000	-0045.1	031.0	338.0	100.0000	0247.0	073.0	62.56
198.0	100.0000	-0032.0	031.0	337.7	100.0000	0246.8	073.4	62.44
199.0	100.0000	-0016.0	031.0	337.4	100.0000	0246.7	073.7	62.32
200.0	100.0000	-0002.4	031.0	337.0	100.0000	0246.6	074.1	62.19
201.0	100.0000	0009.2	031.0	336.7	100.0000	0246.7	074.4	62.07
202.0	100.0000	0021.9	031.0	336.4	100.0000	0246.8	074.8	61.95
203.0	100.0000	0034.6	032.9	335.1	100.0000	0248.0	073.9	62.29
204.0	100.0000	0045.8	037.4	332.0	100.0000	0243.4	071.5	62.95
205.0	100.0000	0057.5	041.4	329.1	100.0000	0225.4	069.7	62.90
206.0	100.0000	0069.1	044.3	326.7	100.0000	0214.5	068.8	62.79
207.0	100.0000	0080.9	046.9	324.5	100.0000	0201.1	068.3	62.44
208.0	100.0000	0095.2	049.9	321.9	100.0000	0177.8	067.7	61.65
209.0	100.0000	0115.6	053.6	318.7	100.0000	0148.2	067.3	60.37
210.0	100.0000	0139.8	057.1	315.6	100.0000	0117.7	067.1	58.79
211.0	100.0000	0166.3	060.5	312.6	100.0000	0093.7	067.4	57.35
212.0	100.0000	0195.1	063.3	310.1	100.0000	0077.3	067.9	56.16
213.0	100.0000	0224.7	066.1	307.7	100.0000	0071.3	068.8	55.54
214.0	100.0000	0253.7	068.5	305.6	100.0000	0077.5	069.8	55.65
215.0	100.0000	0284.0	071.1	303.5	100.0000	0089.7	071.1	56.04
216.0	100.0000	0315.9	073.6	301.6	100.0000	0094.8	072.5	55.93
217.0	100.0000	0349.6	076.1	299.8	100.0000	0091.2	074.0	55.28
218.0	100.0000	0385.2	078.7	297.9	100.0000	0086.9	075.8	54.56
219.0	100.0000	0419.8	081.2	296.3	100.0000	0086.3	077.7	54.01
220.0	100.0000	0447.9	083.3	295.1	100.0000	0085.2	079.6	53.43
221.0	100.0000	0470.3	084.9	294.3	100.0000	0083.4	081.4	52.84
222.0	100.0000	0491.9	086.2	293.7	100.0000	0082.2	083.3	52.29
223.0	100.0000	0514.8	087.6	293.1	100.0000	0081.9	085.2	51.76
224.0	100.0000	0536.9	088.9	292.7	100.0000	0082.3	087.1	51.27
225.0	100.0000	0556.2	090.0	292.4	100.0000	0082.9	088.9	50.81
226.0	100.0000	0572.4	090.7	292.4	100.0000	0083.0	090.7	50.37
227.0	100.0000	0586.6	091.3	292.5	100.0000	0082.8	092.4	49.93
228.0	100.0000	0600.0	091.8	292.6	100.0000	0082.5	094.0	49.50

KUDE(FM) 256C1 vs KJMY(FM) 258C
Section 73.215 Contour Protection Contour Map

FMCommander Single Allocation Study - 11-19-2016 - NGDC 30 SEC
KUDE's Overlaps (In= 0.0 km, Out= 0.0 km)

KUDE CH 256 C1

Lat= 39 43 58.2, Lng= 111 56 34.6
100.0 kW 296.76 m HAAT, 2038.5 m COR
Prot.= 60 dBu, Intef.= 100 dBu

KJMY^ CH 258 C BLH19880311KC

Lat= 40 36 29.0, Lng= 112 09 33.0
Max Cls: 100.0 kW 600 m HAAT, 2311 m COR
Prot.= 60 dBu, Intef.= 100 dBu

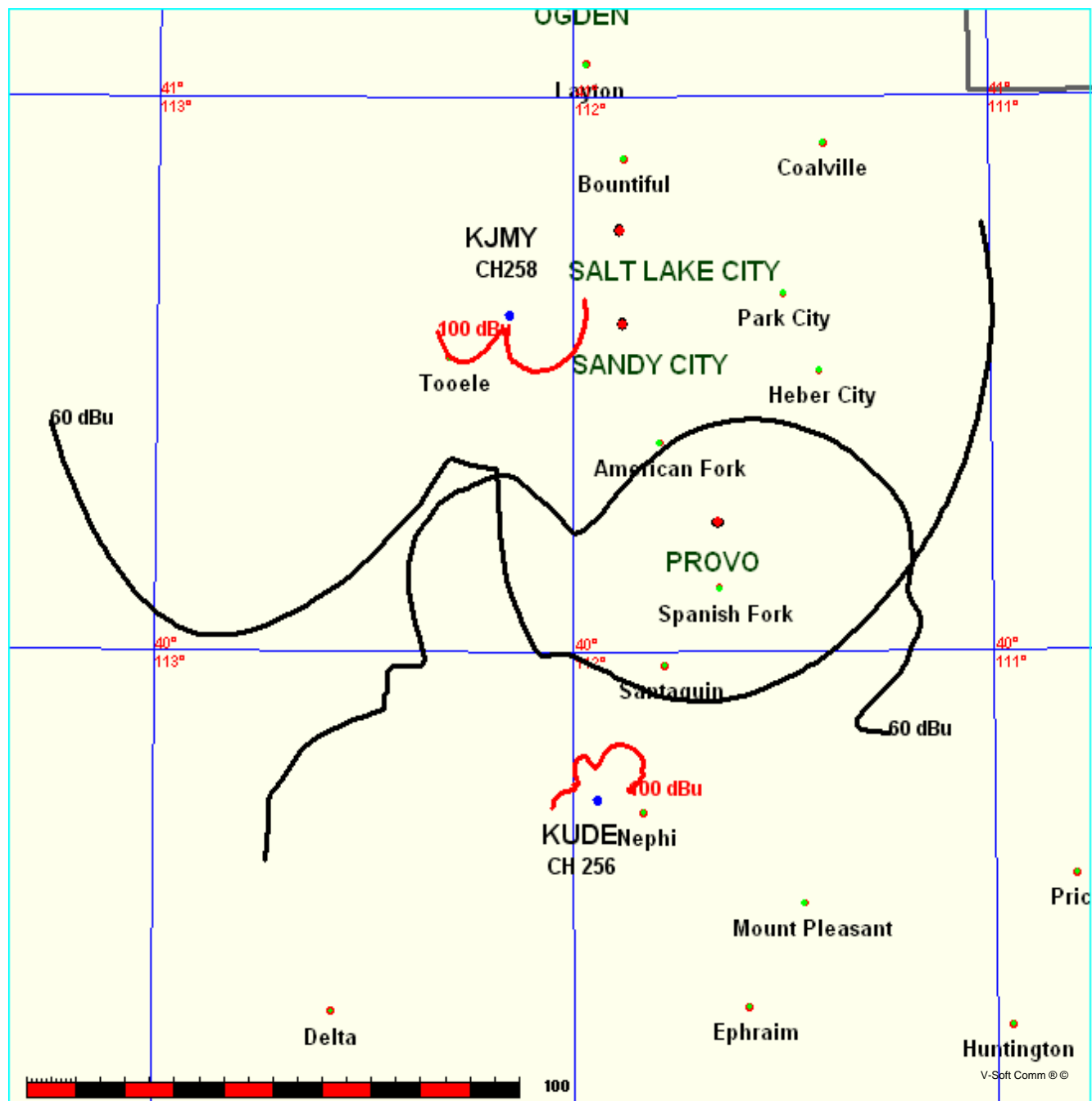


Exhibit 5B

Section 73.215 Contour Overlap Tabulations and Contour Overlap Map

KUDE(FM) 256C1

vs:

KBEE(FM) 254

11-19-2016

Terrain Data: NGDC 30 SEC

FMOver Analysis

KUDE

Channel = 256C1
 Max ERP = 100 kW
 RCAMSL = 2038.5 m
 N. Lat. 39 43 58.2
 W. Lng. 111 56 34.6
 Protected
 60 dBu

KBEE BMLH20100723AVI
 (^ Max Class Parameters)
 Channel = 254C
 Max ERP = 100 kW
 RCAMSL = 2309 m
 N. Lat. 40 36 30.0
 W. Lng. 112 09 34.0
 Interfering
 100 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
289.0	100.0000	0101.8	051.2	200.3	100.0000	0002.2	086.1	48.83	
290.0	100.0000	0095.6	050.0	199.6	100.0000	-0007.2	085.2	49.01	
291.0	100.0000	0089.5	048.8	198.7	100.0000	-0019.5	084.3	49.18	
292.0	100.0000	0084.4	047.7	197.9	100.0000	-0031.6	083.5	49.34	
293.0	100.0000	0081.9	047.2	197.5	100.0000	-0036.9	082.8	49.50	
294.0	100.0000	0082.7	047.3	197.6	100.0000	-0036.1	081.9	49.67	
295.0	100.0000	0085.0	047.8	197.9	100.0000	-0032.6	081.0	49.85	
296.0	100.0000	0086.3	048.1	198.0	100.0000	-0031.0	080.2	50.02	
297.0	100.0000	0086.3	048.1	197.9	100.0000	-0032.2	079.3	50.19	
298.0	100.0000	0086.9	048.2	197.9	100.0000	-0032.3	078.5	50.35	
299.0	100.0000	0088.9	048.7	198.1	100.0000	-0029.5	077.6	50.53	
300.0	100.0000	0091.9	049.3	198.4	100.0000	-0024.4	076.6	50.71	
301.0	100.0000	0094.4	049.8	198.6	100.0000	-0020.6	075.7	50.88	
302.0	100.0000	0094.6	049.8	198.5	100.0000	-0022.4	074.8	51.04	
303.0	100.0000	0092.0	049.3	198.0	100.0000	-0031.1	074.1	51.17	
304.0	100.0000	0087.1	048.3	197.0	100.0000	-0043.3	073.6	51.27	
305.0	100.0000	0081.1	047.0	195.9	100.0000	-0055.8	073.2	51.34	
306.0	100.0000	0075.3	045.7	194.7	100.0000	-0061.8	072.9	51.40	
307.0	100.0000	0071.9	044.9	193.9	100.0000	-0065.7	072.4	51.48	
308.0	100.0000	0071.4	044.8	193.6	100.0000	-0067.2	071.7	51.60	
309.0	100.0000	0073.2	045.2	193.6	100.0000	-0067.1	070.9	51.76	
310.0	100.0000	0076.9	046.1	194.0	100.0000	-0065.6	069.8	51.95	
311.0	100.0000	0082.4	047.3	194.6	100.0000	-0062.6	068.5	52.18	
312.0	100.0000	0089.3	048.7	195.4	100.0000	-0058.9	067.1	52.43	
313.0	100.0000	0096.4	050.2	196.1	100.0000	-0053.6	065.7	52.70	
314.0	100.0000	0103.9	051.6	196.9	100.0000	-0045.2	064.3	52.96	
315.0	100.0000	0112.1	053.0	197.6	100.0000	-0035.5	062.8	53.24	
316.0	100.0000	0121.0	054.4	198.4	100.0000	-0024.9	061.4	53.53	
317.0	100.0000	0130.7	055.8	199.1	100.0000	-0012.9	059.9	53.83	
318.0	100.0000	0140.9	057.2	199.9	100.0000	-0002.7	058.3	54.15	
319.0	100.0000	0150.7	058.6	200.6	100.0000	0005.3	056.8	54.47	
320.0	100.0000	0159.9	059.7	201.2	100.0000	0012.0	055.4	54.78	
321.0	100.0000	0169.2	060.8	201.6	100.0000	0017.8	053.9	55.09	
322.0	100.0000	0178.9	061.8	202.0	100.0000	0022.9	052.5	55.40	
323.0	100.0000	0188.3	062.7	202.2	100.0000	0026.1	051.1	55.70	
324.0	100.0000	0197.2	063.5	202.4	100.0000	0028.4	049.7	56.00	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
325.0	100.0000	0205.2	064.3	202.5	100.0000	0029.2	048.4	56.29
326.0	100.0000	0211.5	064.9	202.3	100.0000	0027.4	047.1	56.57
327.0	100.0000	0215.5	065.3	201.9	100.0000	0022.0	046.0	56.85
328.0	100.0000	0219.5	065.6	201.4	100.0000	0015.8	044.8	57.14
329.0	100.0000	0225.0	066.1	201.1	100.0000	0010.8	043.6	57.46
330.0	100.0000	0231.4	066.7	200.7	100.0000	0006.2	042.3	57.82
331.0	100.0000	0237.8	067.2	200.2	100.0000	0000.9	041.1	58.19
332.0	100.0000	0243.3	067.7	199.6	100.0000	-0006.4	039.9	58.56
333.0	100.0000	0246.8	068.0	198.7	100.0000	-0018.9	038.9	58.90
334.0	100.0000	0248.1	068.1	197.6	100.0000	-0036.0	037.9	59.20
335.0	100.0000	0248.0	068.1	196.3	100.0000	-0052.5	037.1	59.48
336.0	100.0000	0247.1	068.0	194.8	100.0000	-0061.6	036.4	59.72
337.0	100.0000	0246.6	068.0	193.2	100.0000	-0069.2	035.7	59.97
338.0	100.0000	0247.0	068.0	191.7	100.0000	-0088.0	035.0	60.22
339.0	100.0000	0247.8	068.1	190.1	100.0000	-0100.8	034.3	60.48
340.0	100.0000	0248.1	068.1	188.4	100.0000	-0084.3	033.7	60.71
341.0	100.0000	0248.2	068.1	186.6	100.0000	-0058.3	033.2	60.91
342.0	100.0000	0248.2	068.1	184.7	100.0000	-0021.2	032.7	61.10
343.0	100.0000	0247.1	068.0	182.7	100.0000	0044.1	032.3	64.22
344.0	100.0000	0243.0	067.7	180.5	100.0000	0095.4	032.3	70.82
345.0	100.0000	0235.2	067.0	178.2	100.0000	0147.7	032.6	74.41
346.0	100.0000	0223.6	066.0	175.9	100.0000	0209.6	033.4	77.07
347.0	100.0000	0208.3	064.6	173.7	100.0000	0254.1	034.6	78.14
348.0	100.0000	0192.8	063.1	171.6	100.0000	0253.8	036.0	77.48
349.0	100.0000	0177.8	061.7	169.8	100.0000	0257.8	037.3	76.96
350.0	100.0000	0165.6	060.4	168.2	100.0000	0271.5	038.6	76.79
351.0	100.0000	0154.4	059.0	166.8	100.0000	0288.0	040.0	76.67
352.0	100.0000	0143.3	057.6	165.6	100.0000	0303.5	041.6	76.44
353.0	100.0000	0132.3	056.0	164.5	100.0000	0319.0	043.3	76.19
354.0	100.0000	0122.5	054.6	163.6	100.0000	0333.6	044.8	75.98
355.0	100.0000	0116.0	053.6	162.7	100.0000	0348.7	045.9	75.98
356.0	100.0000	0116.5	053.7	161.5	100.0000	0365.6	046.1	76.41
357.0	100.0000	0119.3	054.1	160.2	100.0000	0388.5	045.9	77.11
358.0	100.0000	0124.6	054.9	158.8	100.0000	0419.4	045.5	78.07
359.0	100.0000	0130.0	055.7	157.3	100.0000	0442.2	045.1	78.78
000.0	100.0000	0135.3	056.4	155.8	100.0000	0459.9	044.8	79.31
001.0	100.0000	0142.8	057.5	154.1	100.0000	0482.7	044.3	80.02
002.0	100.0000	0154.7	059.1	151.9	100.0000	0510.1	043.4	80.95
003.0	100.0000	0168.0	060.7	149.6	100.0000	0537.7	042.6	81.82
004.0	100.0000	0182.3	062.1	147.3	100.0000	0560.6	042.0	82.48
005.0	100.0000	0196.7	063.5	145.0	100.0000	0582.9	041.6	83.04
006.0	100.0000	0210.6	064.8	142.6	100.0000	0603.5	041.4	83.47
007.0	100.0000	0227.2	066.3	140.0	100.0000	0625.3	041.1	83.92
008.0	100.0000	0243.1	067.7	137.5	100.0000	0643.1	041.1	84.19
009.0	100.0000	0260.3	069.1	134.9	100.0000	0657.1	041.2	84.36
010.0	100.0000	0278.5	070.6	132.2	100.0000	0668.0	041.3	84.44
011.0	100.0000	0297.5	072.2	129.4	100.0000	0676.5	041.6	84.43
012.0	100.0000	0315.1	073.5	127.0	100.0000	0683.8	042.2	84.30
013.0	100.0000	0331.6	074.7	124.8	100.0000	0690.4	042.9	84.10
014.0	100.0000	0346.8	075.8	122.8	100.0000	0696.1	043.7	83.82
015.0	100.0000	0360.3	076.8	121.1	100.0000	0700.6	044.7	83.49

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
016.0	100.0000	0373.5	077.8	119.5	100.0000	0704.2	045.8	83.11
017.0	100.0000	0385.2	078.7	118.1	100.0000	0707.2	046.9	82.71
018.0	100.0000	0395.7	079.4	116.9	100.0000	0710.1	048.1	82.29
019.0	100.0000	0405.6	080.2	115.8	100.0000	0713.2	049.4	81.87
020.0	100.0000	0415.5	080.9	114.8	100.0000	0716.3	050.8	81.42
021.0	100.0000	0425.1	081.6	113.9	100.0000	0719.2	052.1	80.95
022.0	100.0000	0434.3	082.3	113.1	100.0000	0721.5	053.5	80.46
023.0	100.0000	0442.7	082.9	112.4	100.0000	0723.3	055.0	79.96
024.0	100.0000	0450.0	083.4	111.9	100.0000	0724.7	056.4	79.44
025.0	100.0000	0456.4	083.9	111.5	100.0000	0725.6	057.9	78.92
026.0	100.0000	0462.1	084.3	111.2	100.0000	0726.3	059.4	78.40
027.0	100.0000	0467.2	084.6	111.0	100.0000	0726.7	060.9	77.88
028.0	100.0000	0472.0	085.0	110.9	100.0000	0726.9	062.4	77.37
029.0	100.0000	0476.4	085.3	110.8	100.0000	0727.1	064.0	76.88
030.0	100.0000	0480.6	085.5	110.7	100.0000	0727.1	065.5	76.39
031.0	100.0000	0484.4	085.8	110.8	100.0000	0727.1	067.0	75.92
032.0	100.0000	0487.9	086.0	110.8	100.0000	0727.0	068.5	75.44
033.0	100.0000	0491.0	086.2	110.9	100.0000	0726.9	070.0	74.98
034.0	100.0000	0493.3	086.3	111.1	100.0000	0726.6	071.5	74.51
035.0	100.0000	0495.1	086.4	111.2	100.0000	0726.2	073.0	74.06
036.0	100.0000	0496.1	086.5	111.5	100.0000	0725.7	074.5	73.60
037.0	100.0000	0496.5	086.5	111.8	100.0000	0725.1	076.0	73.15
038.0	100.0000	0496.1	086.5	112.1	100.0000	0724.3	077.4	72.69
039.0	100.0000	0495.1	086.4	112.4	100.0000	0723.3	078.9	72.24
040.0	100.0000	0493.7	086.3	112.8	100.0000	0722.3	080.3	71.79
041.0	100.0000	0492.0	086.2	113.2	100.0000	0721.2	081.7	71.33
042.0	100.0000	0490.3	086.1	113.6	100.0000	0720.1	083.1	70.87
043.0	100.0000	0488.5	086.0	114.0	100.0000	0718.8	084.5	70.42
044.0	100.0000	0486.2	085.9	114.4	100.0000	0717.5	085.8	69.96
045.0	100.0000	0482.9	085.7	114.9	100.0000	0716.0	087.2	69.51
046.0	100.0000	0478.4	085.4	115.4	100.0000	0714.4	088.5	69.07
047.0	100.0000	0472.1	085.0	116.0	100.0000	0712.6	089.7	68.65
048.0	100.0000	0463.4	084.4	116.7	100.0000	0710.7	090.9	68.26

11-19-2016

Terrain Data: NGDC 30 SEC

FMOver Analysis

KBEE BMLH20100723AVI

KUDE

(^ Max Class Parameters)

Channel = 254C

Channel = 256C1

Max ERP = 100 kW

Max ERP = 100 kW

RCAMSL = 2309 m

RCAMSL = 2038.5 m

N. Lat. 40 36 30.0

N. Lat. 39 43 58.2

W. Lng. 112 09 34.0

W. Lng. 111 56 34.6

Protected

Interfering

60 dBu

100 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
109.0	100.0000	0729.5	096.8	048.1	100.0000	0462.1	098.4	61.20	
110.0	100.0000	0728.2	096.8	048.6	100.0000	0457.2	096.9	61.50	
111.0	100.0000	0726.7	096.7	049.0	100.0000	0452.0	095.4	61.80	
112.0	100.0000	0724.5	096.6	049.4	100.0000	0446.7	093.8	62.11	
113.0	100.0000	0721.7	096.5	049.9	100.0000	0441.4	092.3	62.42	
114.0	100.0000	0718.8	096.4	050.3	100.0000	0436.2	090.7	62.76	
115.0	100.0000	0715.6	096.3	050.7	100.0000	0431.2	089.2	63.10	
116.0	100.0000	0712.5	096.2	051.1	100.0000	0426.2	087.6	63.45	
117.0	100.0000	0709.8	096.0	051.5	100.0000	0421.0	086.0	63.80	
118.0	100.0000	0707.4	096.0	051.9	100.0000	0415.5	084.4	64.15	
119.0	100.0000	0705.2	095.9	052.3	100.0000	0409.7	082.9	64.50	
120.0	100.0000	0703.1	095.8	052.7	100.0000	0403.5	081.3	64.83	
121.0	100.0000	0700.8	095.7	053.0	100.0000	0396.8	079.7	65.16	
122.0	100.0000	0698.3	095.6	053.4	100.0000	0389.9	078.1	65.48	
123.0	100.0000	0695.7	095.5	053.8	100.0000	0383.0	076.5	65.81	
124.0	100.0000	0692.9	095.4	054.2	100.0000	0376.3	074.9	66.15	
125.0	100.0000	0689.9	095.3	054.5	100.0000	0369.9	073.3	66.51	
126.0	100.0000	0686.9	095.2	054.8	100.0000	0363.8	071.7	66.88	
127.0	100.0000	0683.9	095.0	055.2	100.0000	0358.2	070.1	67.27	
128.0	100.0000	0680.9	094.9	055.5	100.0000	0353.2	068.5	67.69	
129.0	100.0000	0677.8	094.8	055.8	100.0000	0348.9	066.9	68.12	
130.0	100.0000	0674.9	094.7	056.1	100.0000	0345.1	065.3	68.58	
131.0	100.0000	0671.9	094.6	056.4	100.0000	0342.0	063.6	69.06	
132.0	100.0000	0668.6	094.4	056.7	100.0000	0339.5	062.0	69.57	
133.0	100.0000	0665.0	094.3	057.0	100.0000	0337.8	060.4	70.11	
134.0	100.0000	0661.0	094.1	057.2	100.0000	0336.5	058.7	70.68	
135.0	100.0000	0656.6	094.0	057.4	100.0000	0335.8	057.1	71.27	
136.0	100.0000	0651.6	093.8	057.5	100.0000	0335.3	055.5	71.88	
137.0	100.0000	0646.0	093.6	057.6	100.0000	0335.0	053.8	72.51	
138.0	100.0000	0639.7	093.3	057.7	100.0000	0334.9	052.2	73.14	
139.0	100.0000	0632.7	093.1	057.7	100.0000	0335.0	050.5	73.78	
140.0	100.0000	0625.1	092.8	057.6	100.0000	0335.1	048.9	74.42	
141.0	100.0000	0616.9	092.5	057.4	100.0000	0335.5	047.2	75.07	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
142.0	100.0000	0608.5	092.1	057.3	100.0000	0336.2	045.6	75.75
143.0	100.0000	0600.0	091.8	057.0	100.0000	0337.4	043.9	76.46
144.0	100.0000	0591.4	091.5	056.7	100.0000	0339.6	042.3	77.21
145.0	100.0000	0582.5	091.1	056.3	100.0000	0343.5	040.7	78.02
146.0	100.0000	0573.2	090.7	055.7	100.0000	0350.1	039.1	78.92
147.0	100.0000	0563.4	090.3	055.0	100.0000	0361.0	037.6	79.94
148.0	100.0000	0553.6	089.8	054.1	100.0000	0376.7	036.0	81.07
149.0	100.0000	0543.8	089.3	053.1	100.0000	0396.2	034.5	82.30
150.0	100.0000	0533.6	088.7	051.8	100.0000	0416.8	033.0	83.52
151.0	100.0000	0521.8	088.0	050.1	100.0000	0438.7	031.6	84.71
152.0	100.0000	0508.9	087.3	048.1	100.0000	0462.8	030.3	85.88
153.0	100.0000	0496.2	086.5	045.8	100.0000	0479.2	029.0	86.88
154.0	100.0000	0483.5	085.7	043.4	100.0000	0487.7	027.8	87.72
155.0	100.0000	0470.4	084.9	040.5	100.0000	0492.8	026.8	88.47
156.0	100.0000	0457.3	084.0	037.3	100.0000	0496.4	025.9	89.13
157.0	100.0000	0445.8	083.1	034.0	100.0000	0493.4	025.0	89.63
158.0	100.0000	0433.2	082.2	030.3	100.0000	0481.9	024.4	89.89
159.0	100.0000	0415.4	080.9	025.8	100.0000	0461.1	024.2	89.71
160.0	100.0000	0393.4	079.3	020.8	100.0000	0423.0	024.4	88.79
161.0	100.0000	0373.9	077.8	016.2	100.0000	0375.9	024.7	87.42
162.0	100.0000	0358.2	076.7	012.1	100.0000	0317.5	024.9	85.71
163.0	100.0000	0343.3	075.6	008.3	100.0000	0248.3	025.2	83.41
164.0	100.0000	0327.0	074.4	004.6	100.0000	0190.4	025.8	80.76
165.0	100.0000	0311.9	073.3	001.1	100.0000	0144.1	026.5	77.78
166.0	100.0000	0298.3	072.3	358.0	100.0000	0124.4	027.2	76.04
167.0	100.0000	0285.9	071.2	355.0	100.0000	0115.9	028.0	74.97
168.0	100.0000	0274.0	070.3	352.4	100.0000	0139.2	028.8	75.98
169.0	100.0000	0264.5	069.5	349.9	100.0000	0166.6	029.6	77.18
170.0	100.0000	0256.8	068.8	347.6	100.0000	0198.6	030.2	78.28
171.0	100.0000	0253.8	068.6	345.4	100.0000	0231.0	030.6	79.41
172.0	100.0000	0254.0	068.6	343.2	100.0000	0246.6	030.7	79.87
173.0	100.0000	0254.7	068.6	341.0	100.0000	0248.2	030.9	79.83
174.0	100.0000	0252.4	068.4	338.9	100.0000	0247.7	031.4	79.56
175.0	100.0000	0235.9	067.1	337.6	100.0000	0246.7	033.0	78.69
176.0	100.0000	0206.4	064.4	337.2	100.0000	0246.6	035.9	77.27
177.0	100.0000	0176.4	061.6	337.0	100.0000	0246.6	038.9	75.83
178.0	100.0000	0153.0	058.9	337.0	100.0000	0246.6	041.8	74.53
179.0	100.0000	0129.4	055.6	337.3	100.0000	0246.7	045.2	73.06
180.0	100.0000	0107.8	052.3	337.8	100.0000	0246.8	048.6	71.66
181.0	100.0000	0084.3	047.7	338.8	100.0000	0247.7	053.2	69.83
182.0	100.0000	0060.9	042.3	340.2	100.0000	0248.1	058.5	67.74
183.0	100.0000	0036.1	033.5	342.5	100.0000	0247.9	066.9	64.67
184.0	100.0000	0003.1	031.0	342.9	100.0000	0247.4	069.5	63.76
185.0	100.0000	-0030.2	031.0	342.4	100.0000	0248.0	069.7	63.71
186.0	100.0000	-0051.1	031.0	342.0	100.0000	0248.2	069.9	63.64
187.0	100.0000	-0063.0	031.0	341.6	100.0000	0248.3	070.1	63.57
188.0	100.0000	-0077.7	031.0	341.2	100.0000	0248.2	070.4	63.49
189.0	100.0000	-0092.0	031.0	340.8	100.0000	0248.2	070.6	63.40
190.0	100.0000	-0100.4	031.0	340.5	100.0000	0248.1	070.9	63.31
191.0	100.0000	-0095.9	031.0	340.1	100.0000	0248.1	071.2	63.21
192.0	100.0000	-0084.1	031.0	339.7	100.0000	0248.1	071.5	63.12

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
193.0	100.0000	-0071.1	031.0	339.4	100.0000	0248.0	071.8	63.02
194.0	100.0000	-0065.4	031.0	339.0	100.0000	0247.8	072.1	62.91
195.0	100.0000	-0060.5	031.0	338.7	100.0000	0247.5	072.4	62.79
196.0	100.0000	-0054.8	031.0	338.3	100.0000	0247.2	072.7	62.67
197.0	100.0000	-0043.8	031.0	338.0	100.0000	0247.0	073.0	62.55
198.0	100.0000	-0030.8	031.0	337.7	100.0000	0246.8	073.4	62.43
199.0	100.0000	-0014.9	031.0	337.3	100.0000	0246.7	073.7	62.30
200.0	100.0000	-0001.8	031.0	337.0	100.0000	0246.6	074.1	62.18
201.0	100.0000	0010.1	031.0	336.7	100.0000	0246.7	074.5	62.06
202.0	100.0000	0023.2	031.0	336.4	100.0000	0246.8	074.9	61.93
203.0	100.0000	0036.0	033.5	334.7	100.0000	0248.2	073.5	62.42
204.0	100.0000	0047.2	038.0	331.7	100.0000	0241.7	071.2	62.98
205.0	100.0000	0058.6	041.7	328.8	100.0000	0224.0	069.6	62.90
206.0	100.0000	0070.0	044.5	326.6	100.0000	0214.0	068.8	62.78
207.0	100.0000	0081.9	047.2	324.3	100.0000	0199.7	068.2	62.41
208.0	100.0000	0097.0	050.3	321.6	100.0000	0175.2	067.6	61.56
209.0	100.0000	0118.4	054.0	318.4	100.0000	0144.9	067.2	60.23
210.0	100.0000	0143.0	057.5	315.3	100.0000	0114.4	067.1	58.64
211.0	100.0000	0170.0	060.9	312.3	100.0000	0091.3	067.3	57.22
212.0	100.0000	0199.2	063.7	309.8	100.0000	0075.8	067.9	56.07
213.0	100.0000	0228.8	066.5	307.4	100.0000	0071.4	068.8	55.55
214.0	100.0000	0257.9	068.9	305.3	100.0000	0079.1	069.9	55.74
215.0	100.0000	0288.6	071.5	303.2	100.0000	0091.1	071.1	56.10
216.0	100.0000	0321.0	073.9	301.3	100.0000	0094.7	072.5	55.90
217.0	100.0000	0355.1	076.5	299.5	100.0000	0090.3	074.1	55.21
218.0	100.0000	0390.8	079.1	297.7	100.0000	0086.6	075.9	54.51
219.0	100.0000	0424.8	081.6	296.0	100.0000	0086.3	077.8	53.98
220.0	100.0000	0451.8	083.6	294.9	100.0000	0084.8	079.7	53.38
221.0	100.0000	0473.7	085.1	294.1	100.0000	0083.0	081.5	52.80
222.0	100.0000	0495.5	086.5	293.6	100.0000	0082.1	083.4	52.25
223.0	100.0000	0518.3	087.8	293.0	100.0000	0081.9	085.3	51.73
224.0	100.0000	0539.9	089.1	292.6	100.0000	0082.5	087.2	51.26
225.0	100.0000	0558.6	090.1	292.4	100.0000	0083.0	089.0	50.80
226.0	100.0000	0574.2	090.8	292.4	100.0000	0083.1	090.7	50.35
227.0	100.0000	0588.0	091.4	292.4	100.0000	0082.8	092.4	49.91
228.0	100.0000	0600.9	091.9	292.6	100.0000	0082.5	094.1	49.49

KUDE(FM) 256C1 vs KBEE(FM) 254C
Section 73.215 Contour Protection Contour Map

FMCommander Single Allocation Study - 11-19-2016 - NGDC 30 SEC
KUDE's Overlaps (In= 0.0 km, Out= 0.0 km)

KUDE CH 256 C1

Lat= 39 43 58.2, Lng= 111 56 34.6
100.0 kW 296.76 m HAAT, 2038.5 m COR
Prot.= 60 dBu, Intef.= 100 dBu

KBEE^ CH 254 C BMLH20100723AVI

Lat= 40 36 30.0, Lng= 112 09 34.0
Max Cls: 100.0 kW 600 m HAAT, 2309 m COR
Prot.= 60 dBu, Intef.= 100 dBu

