

Engineering Statement
University of Wyoming
11/2/2021
Gillette, WY

The applicant is applying for a new NCE FM Construction Permit.

Facility ID No: 762736

Geographic Coordinates: N. Lat. 44-27-36.2, W. Long. 105-36-16.0 (NAD 83)

Elevation at the site: 1357.2 m

Channel number: 211 (90.1 MHz)

Antenna height C.O.R. above ground: 90.0 m

Proposed Antenna COR: 1447.2 m AMSL, HAAT: 134.4 m

Tower height above ground: 100.0 m

Antenna Type: ERI MP-3E

ERP: 4.0 kW, circularly polarized

Page #2: Coverage map showing the 60 dBu contour. As shown on the map, the principal city of Gillette, WY is fully covered by the principal city contour.

Page #3: Distance to contour and HAAT table for the eight cardinal radials.

Pages #4 through #24: Channel study using V-Soft Communications, FMCommander program. This study shows that the proposed facilities will not cause, nor receive, contour overlap interference as per section 73.509 of the Commission's rules.

Page # 25 through #28: RF hazard: The proposed facility would be the sole FM Broadcast facility at this site. Utilizing the FCC FM Model shows that the power density from the proposed 3-bay type #3 antenna with an effective radiated power of 4.0 kW and COR of 90 m A.G. would produce $0.003619012700 \mu\text{W}.\text{cm}^2$ at 9m from the tower base.

Page #29: Description of how the contour-to-contour channel study should be read and the abbreviations used therein.

Page #30: Site map showing the proposed Gillette, WY site at the proposed coordinates.

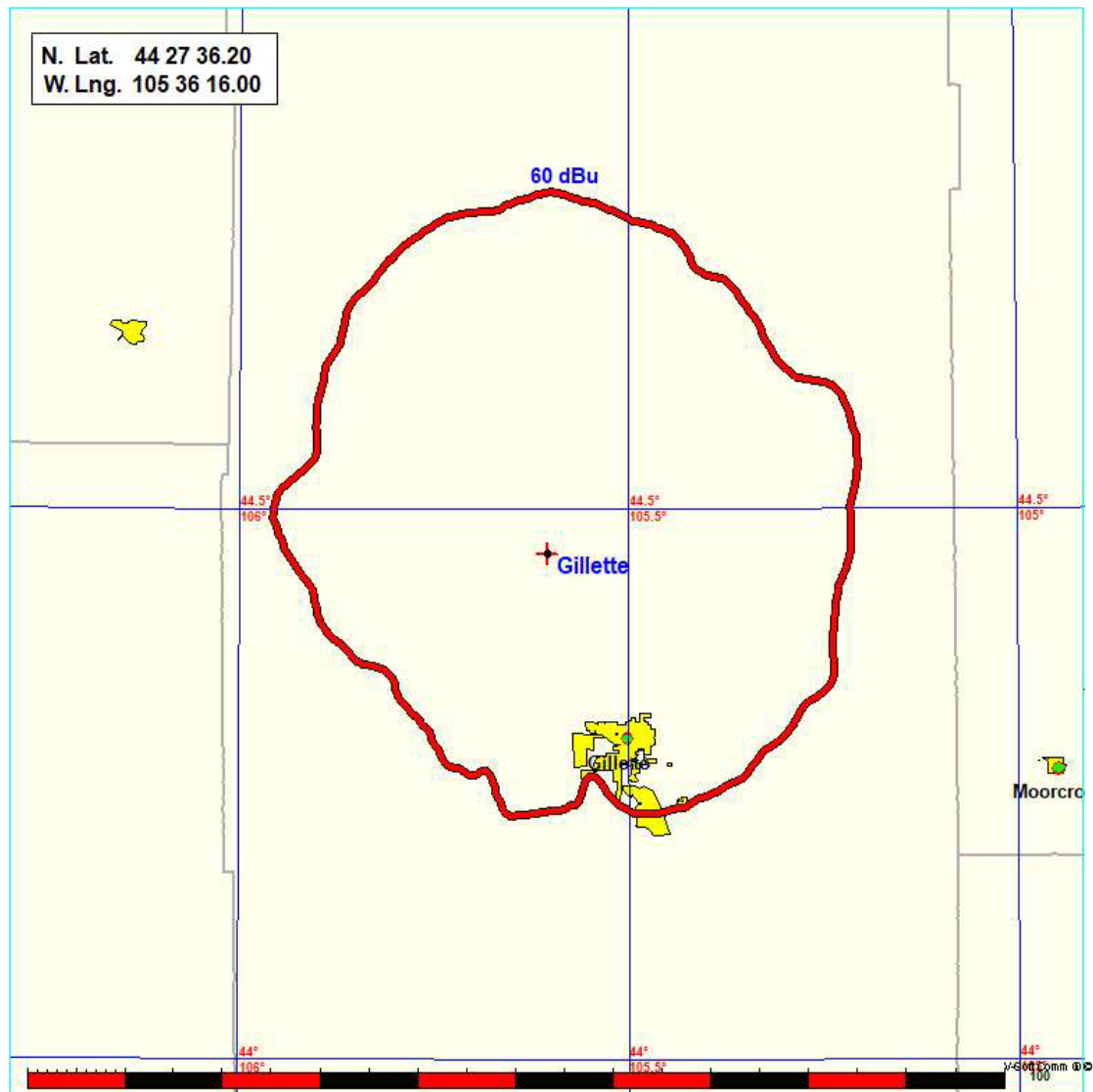
Page #31: Service Count Population report.

Page #32: Exhibit stating the qualifications of the preparer.

Gillette, WY
University Of Wyoming

Coverage Study - GLOBE 30 Sec
11-04-2021

Gillette CH211 C3, 4.0 kW, 134.4m HAAT, 1447.2m COR AMSL
Service Contour = 60 dBu.



Total Area within 60dBu Contour: 2652 km

Gillette, WY
University Of Wyoming

REFERENCE CH# 211C3 - 90.1 MHz, Pwr= 4 kW, HAAT= 134.4 M, COR= 1447.2 M DISPLAY DATES
44 27 36.20 N. Average Protected F(50-50)= 29.35 km DATA 10-25-21
105 36 16.00 W. Omni-directional SEARCH 11-03-21

CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
209A Gillette	KAXG	LIC_VN WY		158.7 338.8	29.89 BLED20081106AWL	44 12 33.90 105 28 05.90	0.400 137	1.4 1565	20.0 Hi-Line Radio Fellowship,	0.0	7.2
264C1 Gillette	KGWY«	LIC_CN WY		167.8 347.9	24.67 BLH19830120AI	44 14 34.90 105 32 20.90	100.000 189	179.1 1605	79.4 Legend Communications Of W	23.5R	1.2M
210C1 Rapid City	KJRC	LIC_CN SD		95.3 276.6	141.35 BLED20151113BOC	44 19 41.90 103 50 04.70	25.000 485	101.9 2204	67.8 Real Presence Radio	9.3	26.0
212C Casper	KCSP-FM	LIC_CN WY		196.7 16.2	199.42 BLED20140923ABP	42 44 23.90 106 18 25.10	100.000 593	149.2 2554	102.9 Western Inspirational Broa	23.6	57.5
213C1 Buffalo	KBUW	APP_CN WY		279.1 98.1	121.24 0000161911	44 37 23.30 107 07 02.30	20.000 383	8.3 2371	81.5 University Of Wyoming	84.7	35.7

Terrain database is GLOBE 30 Sec , R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM
In & Out distances between contours are shown at closest points. Reference zone= - Zone 2, Co to 3rd adjacent.
All separation margins (if shown) include rounding.
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
"«"affixed to 'IN' or 'OUT' values = site inside restricted contour.
« = Station meets FCC minimum distance spacing for its class.

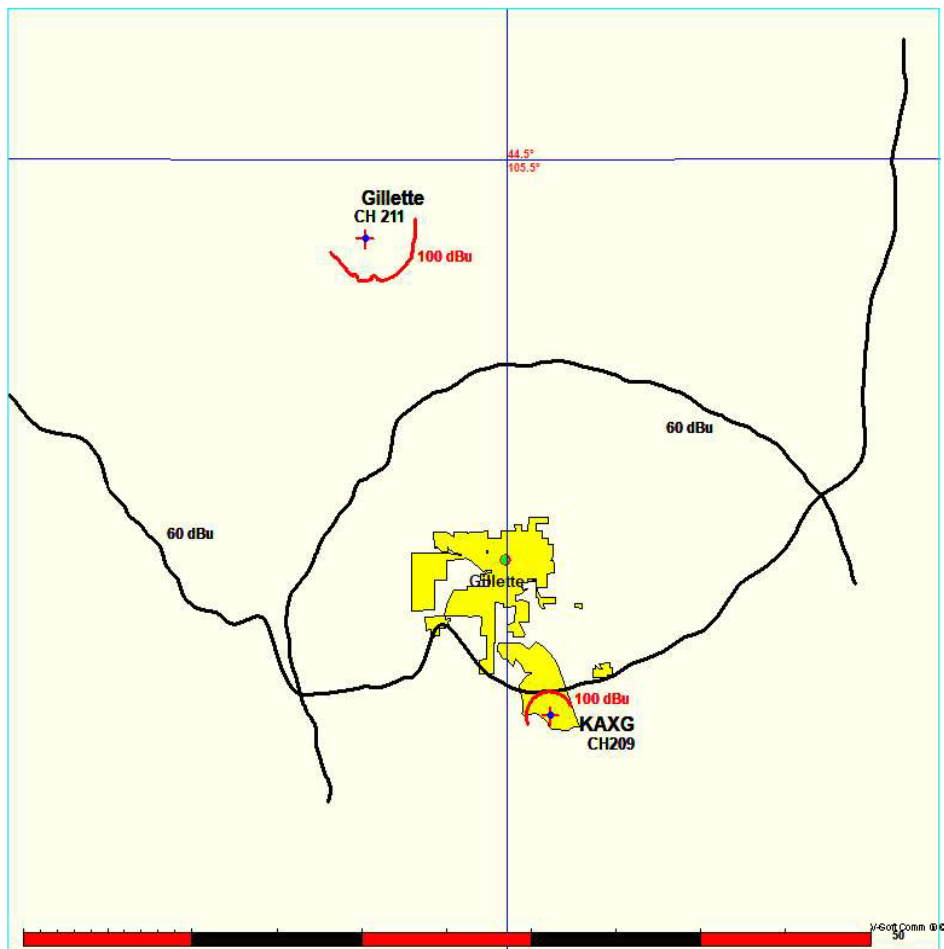
KAXG LIC 209 A Dom 0.400 kW 137 m HAAT MVN
 Gillette WY 1565.0 m COR AMSL -
 Lat = 44 12 33.90, Lng = 105 28 05.90 - NAD 83
 Hi-Line Radio Fellowship, Inc.
 Fac ID# 83087 BLED20081106AWL
 Dist = 29.9 km, Azi = 158.7°, Rev Azi = 338.8°

Reference's Greatest Overlaps: (In = 0.03, Out = 7.20)
 Toward Ref: HAAT = 182.2m, 0.4 kW
 Toward Ref: 60 dBu Protected = 20.0 km, Int = 1.4 km
 Direct line Ref. Protected Contour = 28.4 km, Int = 2.66 km
 Direct line Ref. HAAT = 124.0 meters, 4.0 kW

Gillette, WY
 University Of Wyoming

FMCommander Single Allocation Study - 11-04-2021 - GLOBE 30 Sec
 Gillette's Overlaps (In= 0.11 km, Out= 7.28 km)

Gillette CH 211 C3	KAXG CH 209 A BLED20081106AWL
Lat= 44 27 36.20, Lng= 105 36 16.00	Lat= 44 12 33.90, Lng= 105 28 05.90
4.0 kW 134.4 m HAAT, 1447.2 m COR	0.4 kW 137 m HAAT, 1565 m COR
Prot.= 60 dBu, Intef.= 100 dBu	Prot.= 60 dBu, Intef.= 100 dBu



11-04-2021

Terrain Data: GLOBE 30 Sec

FMOVer Analysis

Gillette

KAXG BLED20081106AWL

Channel = 211C3

Max ERP = 4 kW

RCAMSL = 1447.2 m

N. Lat. 44 27 36.20

W. Lng. 105 36 16.00

Protected

60 dBu

Channel = 209A

Max ERP = 0.4 kW

RCAMSL = 1565 m

N. Lat. 44 12 33.90

W. Lng. 105 28 05.90

Interfering

100 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
099.0	004.0000	0141.4	030.0	039.2	000.4000	0197.4	029.8	54.49	
100.0	004.0000	0141.3	030.0	039.7	000.4000	0198.1	029.4	54.80	
101.0	004.0000	0142.0	030.1	040.3	000.4000	0198.8	028.9	55.09	
102.0	004.0000	0142.5	030.1	040.9	000.4000	0198.9	028.5	55.37	
103.0	004.0000	0143.3	030.2	041.5	000.4000	0198.5	028.1	55.62	
104.0	004.0000	0144.3	030.3	042.2	000.4000	0197.6	027.7	55.85	
105.0	004.0000	0145.1	030.4	042.9	000.4000	0196.6	027.2	56.10	
106.0	004.0000	0146.3	030.5	043.6	000.4000	0195.8	026.8	56.34	
107.0	004.0000	0147.4	030.6	044.4	000.4000	0195.5	026.4	56.62	
108.0	004.0000	0149.1	030.8	045.2	000.4000	0195.5	026.0	56.89	
109.0	004.0000	0151.4	031.0	046.2	000.4000	0195.1	025.6	57.13	
110.0	004.0000	0153.3	031.2	047.2	000.4000	0193.9	025.2	57.36	
111.0	004.0000	0156.0	031.5	048.3	000.4000	0192.8	024.9	57.57	
112.0	004.0000	0158.5	031.7	049.4	000.4000	0192.9	024.5	57.84	
113.0	004.0000	0160.1	031.9	050.4	000.4000	0193.6	024.1	58.17	
114.0	004.0000	0160.6	032.0	051.1	000.4000	0193.7	023.6	58.53	
115.0	004.0000	0159.7	031.9	051.5	000.4000	0193.6	023.1	58.92	
116.0	004.0000	0157.8	031.7	051.7	000.4000	0193.4	022.5	59.36	
117.0	004.0000	0155.2	031.4	051.6	000.4000	0193.5	021.9	59.83	
118.0	004.0000	0152.2	031.1	051.5	000.4000	0193.6	021.2	60.31	
119.0	004.0000	0149.4	030.8	051.4	000.4000	0193.7	020.6	60.79	
120.0	004.0000	0147.4	030.6	051.4	000.4000	0193.6	020.1	61.25	
121.0	004.0000	0146.3	030.5	051.6	000.4000	0193.4	019.5	61.67	
122.0	004.0000	0146.2	030.5	052.2	000.4000	0193.2	019.0	62.07	
123.0	004.0000	0146.7	030.5	052.9	000.4000	0193.0	018.5	62.45	
124.0	004.0000	0147.3	030.6	053.6	000.4000	0192.8	018.1	62.83	
125.0	004.0000	0147.9	030.7	054.3	000.4000	0192.3	017.6	63.21	
126.0	004.0000	0147.9	030.7	054.9	000.4000	0191.6	017.1	63.60	
127.0	004.0000	0147.2	030.6	055.3	000.4000	0191.0	016.5	64.01	
128.0	004.0000	0146.3	030.5	055.6	000.4000	0190.5	016.0	64.44	
129.0	004.0000	0145.2	030.4	055.8	000.4000	0190.0	015.5	64.87	
130.0	004.0000	0143.7	030.2	055.8	000.4000	0190.0	014.9	65.15	
131.0	004.0000	0141.8	030.1	055.6	000.4000	0190.4	014.4	65.82	
132.0	004.0000	0140.4	029.9	055.6	000.4000	0190.4	013.8	66.49	
133.0	004.0000	0140.3	029.9	056.1	000.4000	0189.4	013.3	67.12	
134.0	004.0000	0141.1	030.0	056.9	000.4000	0187.5	012.8	67.72	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
135.0	004.0000	0142.1	030.1	057.8	000.4000	0185.5	012.3	68.34
136.0	004.0000	0143.2	030.2	058.9	000.4000	0183.6	011.8	68.99
137.0	004.0000	0144.4	030.3	060.0	000.4000	0182.0	011.4	69.68
138.0	004.0000	0144.9	030.4	060.9	000.4000	0181.1	010.8	70.46
139.0	004.0000	0144.3	030.3	061.2	000.4000	0180.9	010.3	71.34
140.0	004.0000	0142.6	030.1	060.9	000.4000	0181.1	009.8	72.32
141.0	004.0000	0140.8	030.0	060.4	000.4000	0181.6	009.2	73.33
142.0	004.0000	0139.9	029.9	060.4	000.4000	0181.6	008.7	74.32
143.0	004.0000	0139.7	029.9	060.7	000.4000	0181.3	008.2	75.31
144.0	004.0000	0139.2	029.8	060.8	000.4000	0181.2	007.6	76.37
145.0	004.0000	0138.1	029.7	060.4	000.4000	0181.6	007.1	77.58
146.0	004.0000	0136.7	029.6	059.7	000.4000	0182.5	006.6	78.90
147.0	004.0000	0135.5	029.5	058.8	000.4000	0183.7	006.1	80.30
148.0	004.0000	0134.8	029.4	058.2	000.4000	0184.8	005.6	81.76
149.0	004.0000	0134.9	029.4	058.3	000.4000	0184.6	005.0	83.23
150.0	004.0000	0135.1	029.4	058.5	000.4000	0184.3	004.5	84.76
151.0	004.0000	0134.7	029.4	057.6	000.4000	0185.9	004.0	86.50
152.0	004.0000	0133.4	029.3	055.1	000.4000	0191.2	003.5	88.45
153.0	004.0000	0131.7	029.1	050.7	000.4000	0193.7	003.1	90.36
154.0	004.0000	0130.1	029.0	045.2	000.4000	0195.5	002.6	92.41
155.0	004.0000	0129.3	028.9	038.9	000.4000	0196.8	002.2	94.62
156.0	004.0000	0128.7	028.8	029.8	000.4000	0187.3	001.8	96.69
157.0	004.0000	0127.3	028.7	014.1	000.4000	0184.6	001.5	99.46
158.0	004.0000	0125.3	028.5	353.3	000.4000	0195.9	001.4	99.80
159.0	004.0000	0123.5	028.3	333.7	000.4000	0175.2	001.6	97.75
160.0	004.0000	0121.8	028.2	318.8	000.4000	0140.9	001.8	95.47
161.0	004.0000	0119.0	027.9	309.8	000.4000	0133.3	002.3	92.44
162.0	004.0000	0115.0	027.5	305.8	000.4000	0131.3	002.9	89.03
163.0	004.0000	0110.5	027.1	304.1	000.4000	0129.8	003.5	85.97
164.0	004.0000	0106.2	026.6	303.4	000.4000	0128.9	004.2	83.31
165.0	004.0000	0100.4	025.9	304.6	000.4000	0130.2	005.0	80.66
166.0	004.0000	0092.4	024.9	307.6	000.4000	0132.5	006.1	77.65
167.0	004.0000	0084.1	023.8	310.4	000.4000	0133.5	007.2	74.70
168.0	004.0000	0079.4	023.2	310.9	000.4000	0133.7	008.0	72.96
169.0	004.0000	0077.9	023.0	309.6	000.4000	0133.2	008.4	72.08
170.0	004.0000	0080.1	023.3	306.1	000.4000	0131.5	008.4	71.89
171.0	004.0000	0085.0	023.9	300.8	000.4000	0127.8	008.3	71.95
172.0	004.0000	0091.9	024.8	294.0	000.4000	0131.6	008.1	72.57
173.0	004.0000	0096.9	025.5	288.6	000.4000	0125.2	008.2	71.99
174.0	004.0000	0099.6	025.8	285.3	000.4000	0118.8	008.4	70.98
175.0	004.0000	0099.2	025.7	284.5	000.4000	0118.0	008.9	70.06
176.0	004.0000	0100.9	025.9	282.4	000.4000	0115.6	009.3	69.19
177.0	004.0000	0102.1	026.1	280.8	000.4000	0113.1	009.7	68.25
178.0	004.0000	0103.2	026.2	279.5	000.4000	0110.6	010.1	67.31
179.0	004.0000	0103.0	026.2	279.2	000.4000	0109.9	010.5	66.46
180.0	004.0000	0102.8	026.2	278.9	000.4000	0109.3	011.0	65.66
181.0	004.0000	0103.6	026.3	278.1	000.4000	0107.6	011.4	64.81
182.0	004.0000	0104.5	026.4	277.4	000.4000	0106.5	011.9	64.03
183.0	004.0000	0105.3	026.5	276.7	000.4000	0105.5	012.3	63.28
184.0	004.0000	0106.2	026.6	276.2	000.4000	0104.8	012.8	62.57
185.0	004.0000	0107.3	026.7	275.6	000.4000	0104.2	013.2	61.89

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
186.0	004.0000	0107.6	026.7	275.4	000.4000	0104.1	013.7	61.28
187.0	004.0000	0108.6	026.8	275.0	000.4000	0103.6	014.2	60.66
188.0	004.0000	0109.4	026.9	274.8	000.4000	0103.3	014.6	60.08
189.0	004.0000	0108.1	026.8	275.4	000.4000	0104.1	015.1	59.81
190.0	004.0000	0104.3	026.3	277.1	000.4000	0106.1	015.5	59.60
191.0	004.0000	0098.7	025.7	279.7	000.4000	0110.9	016.0	59.63
192.0	004.0000	0093.1	025.0	282.1	000.4000	0115.2	016.4	59.59
193.0	004.0000	0087.3	024.2	284.7	000.4000	0118.2	016.8	59.44
194.0	004.0000	0081.8	023.5	287.1	000.4000	0121.9	017.3	59.33
195.0	004.0000	0078.4	023.0	288.6	000.4000	0125.3	017.7	59.20
196.0	004.0000	0077.9	022.9	288.8	000.4000	0125.5	018.1	58.89
197.0	004.0000	0079.8	023.2	287.9	000.4000	0123.7	018.5	58.44
198.0	004.0000	0082.5	023.6	286.8	000.4000	0121.1	018.9	57.94
199.0	004.0000	0084.3	023.8	286.1	000.4000	0119.8	019.4	57.51
200.0	004.0000	0084.3	023.8	286.2	000.4000	0120.0	019.8	57.19
201.0	004.0000	0083.0	023.6	286.8	000.4000	0121.1	020.2	56.95
202.0	004.0000	0082.3	023.6	287.1	000.4000	0121.9	020.6	56.68
203.0	004.0000	0083.0	023.7	286.9	000.4000	0121.5	021.0	56.33
204.0	004.0000	0083.8	023.8	286.8	000.4000	0121.2	021.4	55.98
205.0	004.0000	0083.8	023.8	287.0	000.4000	0121.5	021.8	55.69
206.0	004.0000	0083.2	023.7	287.3	000.4000	0122.3	022.2	55.44
207.0	004.0000	0082.2	023.5	287.8	000.4000	0123.5	022.6	55.22
208.0	004.0000	0079.7	023.2	288.8	000.4000	0125.7	023.0	55.11
209.0	004.0000	0076.9	022.8	289.9	000.4000	0127.5	023.3	54.98
210.0	004.0000	0075.6	022.6	290.5	000.4000	0128.3	023.7	54.77
211.0	004.0000	0074.9	022.5	290.9	000.4000	0128.8	024.0	54.53
212.0	004.0000	0073.4	022.3	291.6	000.4000	0129.5	024.4	54.33
213.0	004.0000	0070.8	022.0	292.6	000.4000	0130.6	024.7	54.18
214.0	004.0000	0068.8	021.7	293.4	000.4000	0131.3	025.0	54.00
215.0	004.0000	0068.3	021.6	293.7	000.4000	0131.5	025.4	53.76
216.0	004.0000	0068.4	021.6	293.9	000.4000	0131.6	025.7	53.51
217.0	004.0000	0067.7	021.5	294.3	000.4000	0131.6	026.1	53.28
218.0	004.0000	0066.7	021.4	294.8	000.4000	0131.6	026.4	53.05

11-04-2021 Terrain Data: GLOBE 30 Sec FMOVer Analysis

KAXG BLED20081106AWL

Gillette

Channel = 209A
 Max ERP = 0.4 kW
 RCAMSL = 1565 m
 N. Lat. 44 12 33.90
 W. Lng. 105 28 05.90
 Protected
 60 dBu

Channel = 211C3
 Max ERP = 4 kW
 RCAMSL = 1447.2 m
 N. Lat. 44 27 36.20
 W. Lng. 105 36 16.00
 Interfering
 100 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
279.0	000.4000	0109.5	015.2	189.3	004.0000	0107.2	025.8	61.69	
280.0	000.4000	0111.6	015.4	189.6	004.0000	0106.0	025.6	61.76	
281.0	000.4000	0113.4	015.5	189.9	004.0000	0104.7	025.3	61.84	
282.0	000.4000	0115.0	015.6	190.2	004.0000	0103.3	025.0	61.90	
283.0	000.4000	0116.5	015.7	190.4	004.0000	0102.0	024.8	61.98	
284.0	000.4000	0117.6	015.8	190.6	004.0000	0101.1	024.5	62.09	
285.0	000.4000	0118.5	015.9	190.7	004.0000	0100.4	024.2	62.23	
286.0	000.4000	0119.7	016.0	190.8	004.0000	0099.6	023.9	62.36	
287.0	000.4000	0121.6	016.1	191.1	004.0000	0098.0	023.6	62.43	
288.0	000.4000	0123.9	016.3	191.4	004.0000	0096.2	023.3	62.47	
289.0	000.4000	0126.0	016.4	191.7	004.0000	0094.7	023.0	62.54	
290.0	000.4000	0127.6	016.5	191.9	004.0000	0093.7	022.7	62.67	
291.0	000.4000	0128.9	016.6	192.0	004.0000	0093.0	022.4	62.82	
292.0	000.4000	0129.9	016.7	192.1	004.0000	0092.6	022.1	63.01	
293.0	000.4000	0131.0	016.8	192.2	004.0000	0092.2	021.8	63.21	
294.0	000.4000	0131.6	016.8	192.1	004.0000	0092.4	021.5	63.46	
295.0	000.4000	0131.5	016.8	191.9	004.0000	0093.5	021.2	63.79	
296.0	000.4000	0130.9	016.8	191.6	004.0000	0095.1	021.0	64.17	
297.0	000.4000	0130.0	016.7	191.3	004.0000	0097.2	020.7	64.58	
298.0	000.4000	0129.1	016.6	190.9	004.0000	0099.5	020.4	64.99	
299.0	000.4000	0128.5	016.6	190.5	004.0000	0101.6	020.2	65.40	
300.0	000.4000	0128.0	016.5	190.1	004.0000	0103.7	019.9	65.79	
301.0	000.4000	0127.8	016.5	189.8	004.0000	0105.3	019.6	66.15	
302.0	000.4000	0128.0	016.6	189.5	004.0000	0106.4	019.4	66.46	
303.0	000.4000	0128.6	016.6	189.3	004.0000	0107.2	019.1	66.75	
304.0	000.4000	0129.6	016.7	189.1	004.0000	0107.6	018.8	67.03	
305.0	000.4000	0130.6	016.7	188.9	004.0000	0108.2	018.5	67.32	
306.0	000.4000	0131.4	016.8	188.7	004.0000	0108.8	018.2	67.60	
307.0	000.4000	0132.2	016.9	188.4	004.0000	0109.2	017.9	67.86	
308.0	000.4000	0132.8	016.9	188.1	004.0000	0109.4	017.7	68.11	
309.0	000.4000	0133.0	016.9	187.6	004.0000	0109.1	017.4	68.30	
310.0	000.4000	0133.3	016.9	187.2	004.0000	0108.6	017.1	68.48	
311.0	000.4000	0133.8	017.0	186.7	004.0000	0108.4	016.9	68.68	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
312.0	000.4000	0134.6	017.0	186.3	004.0000	0108.0	016.6	68.87
313.0	000.4000	0135.1	017.1	185.8	004.0000	0107.4	016.3	69.05
314.0	000.4000	0135.2	017.1	185.2	004.0000	0107.3	016.1	69.24
315.0	000.4000	0135.1	017.1	184.4	004.0000	0106.7	015.9	69.38
316.0	000.4000	0135.4	017.1	183.8	004.0000	0106.0	015.6	69.52
317.0	000.4000	0136.6	017.2	183.3	004.0000	0105.7	015.3	69.73
318.0	000.4000	0138.8	017.3	182.9	004.0000	0105.2	015.0	69.96
319.0	000.4000	0141.6	017.5	182.6	004.0000	0104.8	014.7	70.17
320.0	000.4000	0143.6	017.7	182.1	004.0000	0104.5	014.4	70.51
321.0	000.4000	0143.5	017.6	181.1	004.0000	0103.7	014.2	70.68
322.0	000.4000	0142.2	017.6	179.9	004.0000	0102.7	014.0	70.74
323.0	000.4000	0141.5	017.5	178.8	004.0000	0103.0	013.9	70.95
324.0	000.4000	0141.8	017.5	177.8	004.0000	0103.3	013.7	71.21
325.0	000.4000	0141.4	017.5	176.7	004.0000	0101.8	013.6	71.26
326.0	000.4000	0140.5	017.4	175.4	004.0000	0099.8	013.5	71.22
327.0	000.4000	0141.8	017.5	174.5	004.0000	0099.5	013.2	71.48
328.0	000.4000	0146.1	017.8	173.8	004.0000	0099.3	012.8	72.03
329.0	000.4000	0151.5	018.2	173.2	004.0000	0097.7	012.4	72.54
330.0	000.4000	0157.1	018.5	172.5	004.0000	0095.0	011.9	72.98
331.0	000.4000	0163.3	018.9	171.7	004.0000	0090.0	011.4	73.26
332.0	000.4000	0169.5	019.3	170.7	004.0000	0083.6	011.0	73.35
333.0	000.4000	0173.6	019.5	169.4	004.0000	0078.6	010.7	73.36
334.0	000.4000	0175.6	019.6	167.8	004.0000	0080.2	010.5	73.87
335.0	000.4000	0176.8	019.7	166.0	004.0000	0092.4	010.3	75.30
336.0	000.4000	0177.9	019.7	164.2	004.0000	0105.4	010.2	76.63
337.0	000.4000	0179.4	019.8	162.3	004.0000	0113.7	010.1	77.47
338.0	000.4000	0180.9	019.9	160.3	004.0000	0120.9	010.0	78.15
339.0	000.4000	0182.5	020.0	158.4	004.0000	0124.7	009.9	78.56
340.0	000.4000	0183.6	020.0	156.3	004.0000	0128.3	009.9	78.88
341.0	000.4000	0183.6	020.0	154.3	004.0000	0129.8	009.9	78.92
342.0	000.4000	0182.9	020.0	152.3	004.0000	0132.8	010.0	78.98
343.0	000.4000	0183.1	020.0	150.4	004.0000	0135.1	010.1	79.02
344.0	000.4000	0185.3	020.1	148.3	004.0000	0134.7	010.0	79.03
345.0	000.4000	0188.5	020.3	146.1	004.0000	0136.6	010.0	79.24
346.0	000.4000	0191.6	020.4	143.9	004.0000	0139.2	010.0	79.44
347.0	000.4000	0193.6	020.5	141.8	004.0000	0140.0	010.0	79.40
348.0	000.4000	0194.5	020.5	139.9	004.0000	0142.8	010.2	79.37
349.0	000.4000	0195.1	020.6	138.1	004.0000	0144.9	010.3	79.25
350.0	000.4000	0195.6	020.6	136.3	004.0000	0143.6	010.5	78.87
351.0	000.4000	0196.4	020.6	134.6	004.0000	0141.7	010.7	78.44
352.0	000.4000	0197.0	020.7	133.0	004.0000	0140.3	010.9	78.02
353.0	000.4000	0196.2	020.6	131.7	004.0000	0140.7	011.1	77.62
354.0	000.4000	0194.8	020.6	130.6	004.0000	0142.6	011.4	77.28
355.0	000.4000	0193.4	020.5	129.5	004.0000	0144.5	011.7	76.94
356.0	000.4000	0192.5	020.4	128.5	004.0000	0145.9	012.0	76.59
357.0	000.4000	0192.6	020.4	127.3	004.0000	0146.9	012.3	76.26
358.0	000.4000	0194.3	020.5	126.0	004.0000	0147.9	012.5	76.00
359.0	000.4000	0195.9	020.6	124.7	004.0000	0147.8	012.7	75.65
000.0	000.4000	0196.6	020.6	123.7	004.0000	0147.0	013.0	75.22
001.0	000.4000	0197.0	020.7	122.8	004.0000	0146.6	013.3	74.80
002.0	000.4000	0197.3	020.7	121.9	004.0000	0146.2	013.6	74.38

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
003.0	000.4000	0196.5	020.6	121.3	004.0000	0146.1	013.9	73.96
004.0	000.4000	0195.3	020.6	120.9	004.0000	0146.4	014.3	73.56
005.0	000.4000	0193.9	020.5	120.5	004.0000	0146.7	014.6	73.17
006.0	000.4000	0192.8	020.5	120.1	004.0000	0147.3	015.0	72.82
007.0	000.4000	0192.1	020.4	119.7	004.0000	0147.9	015.3	72.70
008.0	000.4000	0191.0	020.4	119.4	004.0000	0148.5	015.7	72.44
009.0	000.4000	0190.2	020.3	119.0	004.0000	0149.3	016.0	72.20
010.0	000.4000	0189.8	020.3	118.7	004.0000	0150.3	016.3	71.98
011.0	000.4000	0188.5	020.3	118.5	004.0000	0150.8	016.7	71.72
012.0	000.4000	0186.8	020.2	118.4	004.0000	0151.0	017.1	71.43
013.0	000.4000	0184.9	020.1	118.4	004.0000	0151.1	017.4	71.14
014.0	000.4000	0184.6	020.1	118.1	004.0000	0151.8	017.8	70.90
015.0	000.4000	0186.1	020.1	117.6	004.0000	0153.3	018.1	70.73
016.0	000.4000	0188.6	020.3	117.0	004.0000	0155.0	018.4	70.58
017.0	000.4000	0190.2	020.3	116.6	004.0000	0156.3	018.7	70.38
018.0	000.4000	0190.5	020.3	116.4	004.0000	0156.9	019.1	70.14
019.0	000.4000	0190.1	020.3	116.3	004.0000	0157.1	019.5	69.87
020.0	000.4000	0189.8	020.3	116.2	004.0000	0157.3	019.8	69.60
021.0	000.4000	0190.1	020.3	116.1	004.0000	0157.7	020.2	69.34
022.0	000.4000	0190.4	020.3	116.0	004.0000	0157.9	020.5	69.08
023.0	000.4000	0190.2	020.3	115.9	004.0000	0158.0	020.9	68.80
024.0	000.4000	0189.5	020.3	116.0	004.0000	0157.9	021.2	68.52
025.0	000.4000	0188.3	020.2	116.1	004.0000	0157.6	021.6	68.23
026.0	000.4000	0186.7	020.2	116.3	004.0000	0157.1	021.9	67.93
027.0	000.4000	0185.5	020.1	116.5	004.0000	0156.7	022.3	67.64
028.0	000.4000	0185.4	020.1	116.5	004.0000	0156.7	022.6	67.37
029.0	000.4000	0186.4	020.2	116.4	004.0000	0156.9	023.0	67.12
030.0	000.4000	0187.4	020.2	116.3	004.0000	0157.1	023.3	66.86
031.0	000.4000	0187.3	020.2	116.4	004.0000	0156.9	023.7	66.59
032.0	000.4000	0187.5	020.2	116.4	004.0000	0156.8	024.0	66.33
033.0	000.4000	0189.3	020.3	116.3	004.0000	0157.1	024.4	66.09
034.0	000.4000	0191.8	020.4	116.1	004.0000	0157.5	024.8	65.85
035.0	000.4000	0193.0	020.5	116.1	004.0000	0157.5	025.1	65.59
036.0	000.4000	0193.3	020.5	116.2	004.0000	0157.3	025.5	65.33
037.0	000.4000	0193.9	020.5	116.3	004.0000	0157.1	025.8	65.07
038.0	000.4000	0195.3	020.6	116.3	004.0000	0157.1	026.2	64.82

KGWY LIC 264 C1 Dom 100.000 kW 189 m HAAT M
 Gillette WY 1605.0 m COR AMSL -
 Lat = 44 14 34.90, Lng = 105 32 20.90 - NAD 83
 Legend Communications Of Wyoming, LLC
 Fac ID# 54044 BLH19830120AI
 Dist = 24.67 km, Azi = 167.8°, Rev Azi = 347.9°

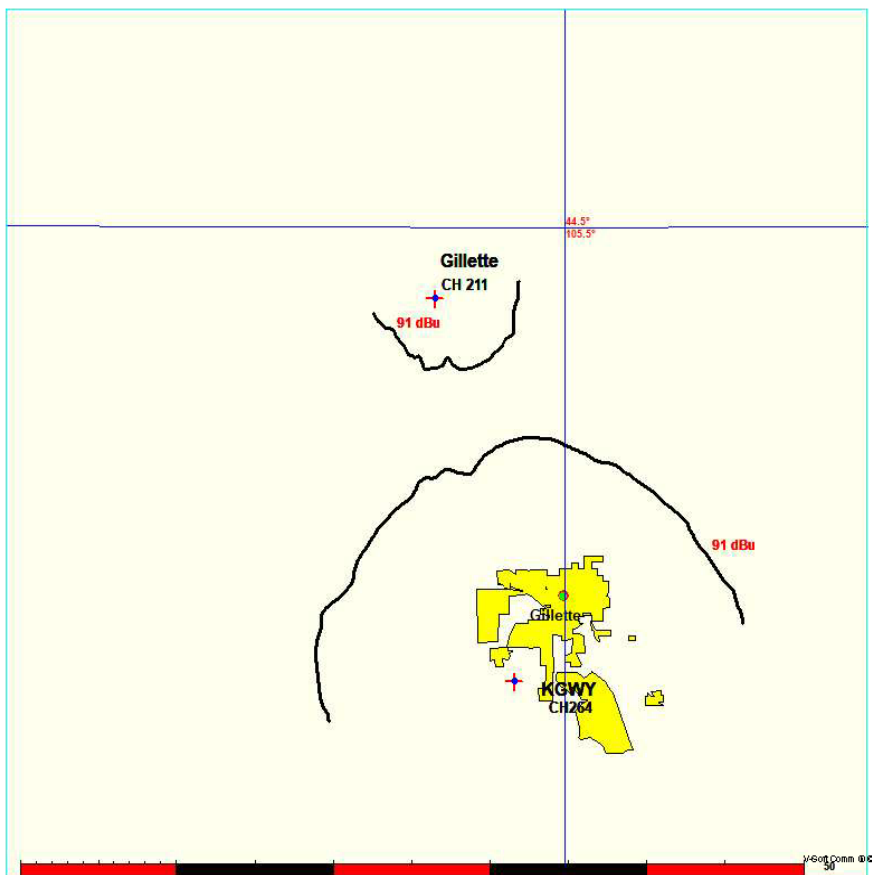
I.F. Requires 23.5 km, you have 24.67 km, Margin = 1.17 km
 Toward Ref: HAAT = 192.0m, 100.0 kW
 Toward Ref: 60 dBu Protected = 13.5 km, Int = 13.47 km
 Direct line Ref. Protected Contour = 3.9 km, Int = 3.87 km
 Direct line Ref. HAAT = 80.0 meters, 4.0 kW

Gillette, WY
 University Of Wyoming

FMCommander Single Allocation Study - 11-04-2021 - GLOBE 30 Sec
 Gillette's Overlaps (In= 0.0 km, Out= 0.0 km)

Gillette CH 211 C3
 Lat= 44 27 36.20, Lng= 105 36 16.00
 4.0 kW 134.4 m HAAT, 1447.2 m COR
 Prot.= 91 dBu, Intef.= 91 dBu

KGWY CH 264 C1 BLH19830120AI
 Lat= 44 14 34.90, Lng= 105 32 20.90
 100.0 kW 189 m HAAT, 1605 m COR
 Prot.= 91 dBu, Intef.= 91 dBu



11-04-2021

Terrain Data: GLOBE 30 Sec

FMOver Analysis

Gillette

KGWY BLH19830120AI

Channel = 211C3

Channel = 264C1

Max ERP = 4 kW

Max ERP = 100 kW

RCAMSL = 1447.2 m

RCAMSL = 1605 m

N. Lat. 44 27 36.20

N. Lat. 44 14 34.90

W. Lng. 105 36 16.00

W. Lng. 105 32 20.90

Protected

Interfering

91 dBu

91 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
108.0	004.0000	0149.1	005.3	359.6	100.0000	0244.6	022.5	85.32	
109.0	004.0000	0151.4	005.3	359.6	100.0000	0244.6	022.4	85.40	
110.0	004.0000	0153.3	005.4	359.6	100.0000	0244.6	022.3	85.48	
111.0	004.0000	0156.0	005.4	359.6	100.0000	0244.7	022.2	85.56	
112.0	004.0000	0158.5	005.4	359.6	100.0000	0244.7	022.1	85.64	
113.0	004.0000	0160.1	005.5	359.6	100.0000	0244.6	022.0	85.71	
114.0	004.0000	0160.6	005.5	359.5	100.0000	0244.5	021.9	85.78	
115.0	004.0000	0159.7	005.5	359.4	100.0000	0244.2	021.8	85.83	
116.0	004.0000	0157.8	005.4	359.2	100.0000	0243.8	021.8	85.87	
117.0	004.0000	0155.2	005.4	359.0	100.0000	0243.4	021.7	85.91	
118.0	004.0000	0152.2	005.3	358.7	100.0000	0242.9	021.6	85.94	
119.0	004.0000	0149.4	005.3	358.5	100.0000	0242.4	021.6	85.97	
120.0	004.0000	0147.4	005.2	358.3	100.0000	0242.0	021.5	86.00	
121.0	004.0000	0146.3	005.2	358.1	100.0000	0241.6	021.4	86.04	
122.0	004.0000	0146.2	005.2	358.0	100.0000	0241.3	021.4	86.09	
123.0	004.0000	0146.7	005.2	357.9	100.0000	0241.0	021.3	86.14	
124.0	004.0000	0147.3	005.2	357.7	100.0000	0240.7	021.2	86.19	
125.0	004.0000	0147.9	005.3	357.6	100.0000	0240.4	021.1	86.25	
126.0	004.0000	0147.9	005.3	357.5	100.0000	0240.0	021.1	86.29	
127.0	004.0000	0147.2	005.2	357.3	100.0000	0239.5	021.0	86.33	
128.0	004.0000	0146.3	005.2	357.1	100.0000	0238.9	020.9	86.35	
129.0	004.0000	0145.2	005.2	356.9	100.0000	0238.3	020.9	86.37	
130.0	004.0000	0143.7	005.2	356.6	100.0000	0237.6	020.8	86.39	
131.0	004.0000	0141.8	005.1	356.4	100.0000	0236.9	020.8	86.39	
132.0	004.0000	0140.4	005.1	356.2	100.0000	0236.2	020.8	86.41	
133.0	004.0000	0140.3	005.1	356.0	100.0000	0235.7	020.7	86.44	
134.0	004.0000	0141.1	005.1	355.8	100.0000	0235.2	020.6	86.48	
135.0	004.0000	0142.1	005.1	355.7	100.0000	0234.8	020.5	86.52	
136.0	004.0000	0143.2	005.2	355.5	100.0000	0234.3	020.5	86.56	
137.0	004.0000	0144.4	005.2	355.4	100.0000	0233.8	020.4	86.60	
138.0	004.0000	0144.9	005.2	355.2	100.0000	0233.0	020.3	86.63	
139.0	004.0000	0144.3	005.2	355.0	100.0000	0232.0	020.3	86.63	
140.0	004.0000	0142.6	005.2	354.7	100.0000	0230.8	020.3	86.60	
141.0	004.0000	0140.8	005.1	354.4	100.0000	0229.5	020.2	86.57	
142.0	004.0000	0139.9	005.1	354.2	100.0000	0228.2	020.2	86.55	
143.0	004.0000	0139.7	005.1	354.0	100.0000	0227.1	020.2	86.55	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
144.0	004.0000	0139.2	005.1	353.7	100.0000	0226.1	020.1	86.53
145.0	004.0000	0138.1	005.1	353.5	100.0000	0225.0	020.1	86.51
146.0	004.0000	0136.7	005.0	353.2	100.0000	0223.9	020.1	86.49
147.0	004.0000	0135.5	005.0	353.0	100.0000	0223.1	020.1	86.47
148.0	004.0000	0134.8	005.0	352.7	100.0000	0222.4	020.0	86.47
149.0	004.0000	0134.9	005.0	352.5	100.0000	0221.8	020.0	86.47
150.0	004.0000	0135.1	005.0	352.3	100.0000	0221.1	020.0	86.48
151.0	004.0000	0134.7	005.0	352.0	100.0000	0220.3	019.9	86.46
152.0	004.0000	0133.4	005.0	351.8	100.0000	0219.3	019.9	86.43
153.0	004.0000	0131.7	005.0	351.5	100.0000	0218.0	019.9	86.38
154.0	004.0000	0130.1	004.9	351.3	100.0000	0216.6	019.9	86.32
155.0	004.0000	0129.3	004.9	351.0	100.0000	0215.1	019.9	86.27
156.0	004.0000	0128.7	004.9	350.8	100.0000	0213.4	019.9	86.21
157.0	004.0000	0127.3	004.9	350.5	100.0000	0211.3	019.9	86.12
158.0	004.0000	0125.3	004.8	350.3	100.0000	0209.1	019.9	86.01
159.0	004.0000	0123.5	004.8	350.0	100.0000	0206.8	019.9	85.90
160.0	004.0000	0121.8	004.8	349.7	100.0000	0204.5	020.0	85.79
161.0	004.0000	0119.0	004.7	349.5	100.0000	0202.2	020.0	85.66
162.0	004.0000	0115.0	004.6	349.2	100.0000	0199.9	020.1	85.51
163.0	004.0000	0110.5	004.6	349.0	100.0000	0197.9	020.1	85.36
164.0	004.0000	0106.2	004.5	348.7	100.0000	0196.2	020.2	85.22
165.0	004.0000	0100.4	004.3	348.5	100.0000	0194.8	020.3	85.06
166.0	004.0000	0092.4	004.2	348.3	100.0000	0193.6	020.5	84.87
167.0	004.0000	0084.1	004.0	348.0	100.0000	0192.6	020.7	84.67
168.0	004.0000	0079.4	003.9	347.8	100.0000	0191.9	020.8	84.55
169.0	004.0000	0077.9	003.8	347.7	100.0000	0191.2	020.9	84.49
170.0	004.0000	0080.1	003.9	347.5	100.0000	0190.6	020.8	84.50
171.0	004.0000	0085.0	004.0	347.3	100.0000	0190.1	020.7	84.57
172.0	004.0000	0091.9	004.1	347.0	100.0000	0189.7	020.5	84.67
173.0	004.0000	0096.9	004.3	346.8	100.0000	0189.5	020.4	84.75
174.0	004.0000	0099.6	004.3	346.6	100.0000	0189.5	020.4	84.79
175.0	004.0000	0099.2	004.3	346.4	100.0000	0189.7	020.4	84.79
176.0	004.0000	0100.9	004.4	346.1	100.0000	0190.1	020.4	84.82
177.0	004.0000	0102.1	004.4	345.9	100.0000	0190.6	020.4	84.86
178.0	004.0000	0103.2	004.4	345.7	100.0000	0191.3	020.4	84.89
179.0	004.0000	0103.0	004.4	345.5	100.0000	0192.0	020.4	84.90
180.0	004.0000	0102.8	004.4	345.3	100.0000	0192.7	020.4	84.92
181.0	004.0000	0103.6	004.4	345.1	100.0000	0193.4	020.4	84.95
182.0	004.0000	0104.5	004.4	344.8	100.0000	0194.1	020.4	84.97
183.0	004.0000	0105.3	004.4	344.6	100.0000	0194.9	020.4	85.00
184.0	004.0000	0106.2	004.5	344.4	100.0000	0195.7	020.4	85.03
185.0	004.0000	0107.3	004.5	344.2	100.0000	0196.6	020.4	85.07
186.0	004.0000	0107.6	004.5	344.0	100.0000	0197.5	020.5	85.09
187.0	004.0000	0108.6	004.5	343.7	100.0000	0198.5	020.5	85.13
188.0	004.0000	0109.4	004.5	343.5	100.0000	0199.6	020.5	85.16
189.0	004.0000	0108.1	004.5	343.3	100.0000	0200.5	020.5	85.15
190.0	004.0000	0104.3	004.4	343.2	100.0000	0201.1	020.7	85.10
191.0	004.0000	0098.7	004.3	343.2	100.0000	0201.3	020.8	84.99
192.0	004.0000	0093.1	004.2	343.2	100.0000	0201.4	020.9	84.88
193.0	004.0000	0087.3	004.0	343.2	100.0000	0201.3	021.1	84.75
194.0	004.0000	0081.8	003.9	343.2	100.0000	0201.2	021.2	84.63

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
195.0	004.0000	0078.4	003.8	343.2	100.0000	0201.5	021.3	84.56
196.0	004.0000	0077.9	003.8	343.0	100.0000	0202.2	021.4	84.56
197.0	004.0000	0079.8	003.9	342.8	100.0000	0203.5	021.4	84.62
198.0	004.0000	0082.5	003.9	342.6	100.0000	0205.0	021.4	84.69
199.0	004.0000	0084.3	004.0	342.4	100.0000	0206.2	021.4	84.74
200.0	004.0000	0084.3	004.0	342.2	100.0000	0207.0	021.4	84.74
201.0	004.0000	0083.0	003.9	342.1	100.0000	0207.5	021.5	84.71
202.0	004.0000	0082.3	003.9	342.0	100.0000	0208.1	021.6	84.69
203.0	004.0000	0083.0	003.9	341.8	100.0000	0208.9	021.6	84.70
204.0	004.0000	0083.8	004.0	341.7	100.0000	0209.6	021.6	84.70
205.0	004.0000	0083.8	004.0	341.5	100.0000	0210.0	021.7	84.68
206.0	004.0000	0083.2	003.9	341.4	100.0000	0210.4	021.7	84.65
207.0	004.0000	0082.2	003.9	341.4	100.0000	0210.6	021.8	84.61
208.0	004.0000	0079.7	003.9	341.3	100.0000	0210.6	021.9	84.54
209.0	004.0000	0076.9	003.8	341.4	100.0000	0210.6	022.0	84.47
210.0	004.0000	0075.6	003.8	341.3	100.0000	0210.7	022.0	84.42
211.0	004.0000	0074.9	003.7	341.2	100.0000	0211.0	022.1	84.38
212.0	004.0000	0073.4	003.7	341.2	100.0000	0211.0	022.2	84.33
213.0	004.0000	0070.8	003.6	341.2	100.0000	0211.0	022.3	84.26
214.0	004.0000	0068.8	003.6	341.2	100.0000	0211.0	022.3	84.20
215.0	004.0000	0068.3	003.6	341.1	100.0000	0211.0	022.4	84.15
216.0	004.0000	0068.4	003.6	341.0	100.0000	0211.1	022.4	84.12
217.0	004.0000	0067.7	003.6	341.0	100.0000	0211.1	022.5	84.07
218.0	004.0000	0066.7	003.5	341.0	100.0000	0211.1	022.6	84.02
219.0	004.0000	0066.5	003.5	340.9	100.0000	0211.2	022.6	83.98
220.0	004.0000	0066.8	003.5	340.8	100.0000	0211.1	022.7	83.94
221.0	004.0000	0066.6	003.5	340.7	100.0000	0211.1	022.7	83.90
222.0	004.0000	0065.7	003.5	340.7	100.0000	0211.0	022.8	83.85
223.0	004.0000	0065.1	003.5	340.7	100.0000	0211.0	022.9	83.80
224.0	004.0000	0065.0	003.5	340.6	100.0000	0210.9	022.9	83.76
225.0	004.0000	0065.0	003.5	340.5	100.0000	0210.8	023.0	83.71
226.0	004.0000	0064.7	003.5	340.5	100.0000	0210.7	023.0	83.66
227.0	004.0000	0063.9	003.5	340.5	100.0000	0210.7	023.1	83.61

11-04-2021 Terrain Data: GLOBE 30 Sec FMOver Analysis

KGWY BLH19830120AI

Gillette

Channel = 264C1
 Max ERP = 100 kW
 RCAMSL = 1605 m
 N. Lat. 44 14 34.90
 W. Lng. 105 32 20.90
 Protected
 91 dBu

Channel = 211C3
 Max ERP = 4 kW
 RCAMSL = 1447.2 m
 N. Lat. 44 27 36.20
 W. Lng. 105 36 16.00
 Interfering
 91 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
288.0	100.0000	0179.7	013.1	199.8	004.0000	0084.4	021.4	62.75	
289.0	100.0000	0180.0	013.1	199.8	004.0000	0084.4	021.1	62.93	
290.0	100.0000	0178.4	013.0	199.7	004.0000	0084.5	020.9	63.12	
291.0	100.0000	0175.5	012.9	199.4	004.0000	0084.6	020.7	63.30	
292.0	100.0000	0172.0	012.8	199.0	004.0000	0084.3	020.5	63.46	
293.0	100.0000	0168.5	012.7	198.6	004.0000	0083.8	020.2	63.57	
294.0	100.0000	0165.0	012.5	198.1	004.0000	0082.8	020.0	63.63	
295.0	100.0000	0162.5	012.4	197.8	004.0000	0081.9	019.8	63.70	
296.0	100.0000	0160.7	012.3	197.5	004.0000	0081.1	019.6	63.78	
297.0	100.0000	0159.4	012.3	197.2	004.0000	0080.4	019.4	63.86	
298.0	100.0000	0158.1	012.2	197.0	004.0000	0079.6	019.2	63.95	
299.0	100.0000	0156.9	012.2	196.7	004.0000	0079.0	019.0	64.03	
300.0	100.0000	0156.5	012.2	196.5	004.0000	0078.5	018.8	64.16	
301.0	100.0000	0157.3	012.2	196.4	004.0000	0078.4	018.6	64.32	
302.0	100.0000	0159.6	012.3	196.5	004.0000	0078.7	018.4	64.54	
303.0	100.0000	0162.2	012.4	196.7	004.0000	0078.9	018.1	64.77	
304.0	100.0000	0164.1	012.5	196.7	004.0000	0079.0	017.9	64.98	
305.0	100.0000	0165.5	012.5	196.7	004.0000	0078.9	017.7	65.15	
306.0	100.0000	0166.8	012.6	196.6	004.0000	0078.8	017.5	65.33	
307.0	100.0000	0168.1	012.6	196.5	004.0000	0078.6	017.2	65.50	
308.0	100.0000	0169.3	012.7	196.4	004.0000	0078.4	017.0	65.66	
309.0	100.0000	0169.6	012.7	196.2	004.0000	0078.0	016.8	65.81	
310.0	100.0000	0169.6	012.7	195.9	004.0000	0077.8	016.6	65.96	
311.0	100.0000	0170.1	012.7	195.6	004.0000	0077.8	016.4	66.13	
312.0	100.0000	0171.3	012.8	195.4	004.0000	0077.9	016.2	66.33	
313.0	100.0000	0172.5	012.8	195.2	004.0000	0078.1	016.0	66.55	
314.0	100.0000	0173.4	012.8	194.9	004.0000	0078.6	015.7	66.78	
315.0	100.0000	0174.6	012.9	194.6	004.0000	0079.2	015.5	67.04	
316.0	100.0000	0176.4	013.0	194.4	004.0000	0080.0	015.3	67.32	
317.0	100.0000	0178.2	013.0	194.2	004.0000	0081.0	015.1	67.63	
318.0	100.0000	0179.1	013.1	193.8	004.0000	0083.0	014.9	67.87	
319.0	100.0000	0179.0	013.0	193.3	004.0000	0085.8	014.7	68.38	
320.0	100.0000	0179.0	013.0	192.7	004.0000	0088.9	014.5	68.91	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
321.0	100.0000	0179.9	013.1	192.3	004.0000	0091.5	014.3	69.41
322.0	100.0000	0181.7	013.1	191.9	004.0000	0093.8	014.1	69.89
323.0	100.0000	0183.7	013.2	191.5	004.0000	0096.1	013.9	70.37
324.0	100.0000	0185.2	013.3	191.0	004.0000	0098.9	013.7	70.88
325.0	100.0000	0186.0	013.3	190.4	004.0000	0102.3	013.5	71.41
326.0	100.0000	0186.3	013.3	189.7	004.0000	0105.8	013.3	71.93
327.0	100.0000	0186.3	013.3	189.0	004.0000	0108.2	013.1	72.33
328.0	100.0000	0186.9	013.3	188.2	004.0000	0109.3	013.0	72.65
329.0	100.0000	0187.9	013.3	187.5	004.0000	0108.9	012.8	72.85
330.0	100.0000	0190.0	013.4	186.9	004.0000	0108.6	012.6	73.10
331.0	100.0000	0194.1	013.5	186.4	004.0000	0108.1	012.4	73.41
332.0	100.0000	0199.6	013.7	185.9	004.0000	0107.5	012.1	73.78
333.0	100.0000	0205.3	013.9	185.4	004.0000	0107.3	011.8	74.20
334.0	100.0000	0209.6	014.0	184.8	004.0000	0107.2	011.6	74.57
335.0	100.0000	0210.4	014.1	183.8	004.0000	0106.0	011.4	74.70
336.0	100.0000	0207.9	014.0	182.5	004.0000	0104.8	011.4	74.66
337.0	100.0000	0204.2	013.9	181.1	004.0000	0103.7	011.4	74.57
338.0	100.0000	0202.7	013.8	179.9	004.0000	0102.7	011.3	74.57
339.0	100.0000	0205.1	013.9	178.9	004.0000	0103.0	011.2	74.85
340.0	100.0000	0209.3	014.0	177.9	004.0000	0103.3	011.0	75.21
341.0	100.0000	0211.1	014.1	176.8	004.0000	0101.8	010.8	75.31
342.0	100.0000	0208.2	014.0	175.4	004.0000	0099.8	010.9	75.08
343.0	100.0000	0202.5	013.8	174.0	004.0000	0099.5	011.0	74.85
344.0	100.0000	0197.3	013.6	172.6	004.0000	0095.4	011.1	74.28
345.0	100.0000	0193.6	013.5	171.3	004.0000	0087.1	011.2	73.36
346.0	100.0000	0190.4	013.4	170.1	004.0000	0080.4	011.3	72.55
347.0	100.0000	0189.6	013.4	168.9	004.0000	0077.9	011.3	72.27
348.0	100.0000	0192.5	013.5	167.7	004.0000	0080.5	011.2	72.70
349.0	100.0000	0198.1	013.7	166.4	004.0000	0088.5	011.0	73.79
350.0	100.0000	0206.8	013.9	165.1	004.0000	0099.8	010.8	75.25
351.0	100.0000	0215.0	014.2	163.6	004.0000	0108.0	010.5	76.33
352.0	100.0000	0220.1	014.4	162.1	004.0000	0114.4	010.4	77.04
353.0	100.0000	0223.1	014.5	160.7	004.0000	0120.1	010.3	77.51
354.0	100.0000	0227.2	014.6	159.1	004.0000	0123.4	010.3	77.86
355.0	100.0000	0232.2	014.8	157.5	004.0000	0126.4	010.2	78.21
356.0	100.0000	0235.7	014.9	155.9	004.0000	0128.8	010.2	78.41
357.0	100.0000	0238.7	015.0	154.3	004.0000	0129.8	010.2	78.46
358.0	100.0000	0241.3	015.1	152.8	004.0000	0132.0	010.2	78.56
359.0	100.0000	0243.4	015.1	151.3	004.0000	0134.4	010.3	78.62
000.0	100.0000	0245.4	015.2	149.9	004.0000	0135.1	010.3	78.55
001.0	100.0000	0247.6	015.3	148.4	004.0000	0134.7	010.4	78.38
002.0	100.0000	0249.2	015.3	147.0	004.0000	0135.5	010.5	78.25
003.0	100.0000	0250.8	015.4	145.7	004.0000	0137.1	010.6	78.17
004.0	100.0000	0251.6	015.4	144.5	004.0000	0138.7	010.8	78.03
005.0	100.0000	0251.2	015.4	143.5	004.0000	0139.5	011.0	77.78
006.0	100.0000	0250.6	015.4	142.5	004.0000	0139.8	011.2	77.47
007.0	100.0000	0250.9	015.4	141.5	004.0000	0140.3	011.3	77.22
008.0	100.0000	0251.0	015.4	140.6	004.0000	0141.6	011.5	77.00
009.0	100.0000	0250.2	015.3	139.8	004.0000	0143.0	011.8	76.76
010.0	100.0000	0248.9	015.3	139.1	004.0000	0144.1	012.0	76.49
011.0	100.0000	0247.2	015.2	138.5	004.0000	0144.8	012.2	76.17

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
012.0	100.0000	0245.2	015.2	138.0	004.0000	0144.9	012.5	75.82
013.0	100.0000	0243.2	015.1	137.6	004.0000	0144.7	012.7	75.44
014.0	100.0000	0241.4	015.1	137.1	004.0000	0144.5	013.0	75.08
015.0	100.0000	0240.0	015.0	136.7	004.0000	0144.0	013.2	74.72
016.0	100.0000	0239.3	015.0	136.2	004.0000	0143.4	013.5	74.37
017.0	100.0000	0238.2	015.0	135.8	004.0000	0142.9	013.7	74.02
018.0	100.0000	0236.3	014.9	135.5	004.0000	0142.6	014.0	73.68
019.0	100.0000	0234.6	014.8	135.2	004.0000	0142.3	014.2	73.35
020.0	100.0000	0233.2	014.8	134.9	004.0000	0142.0	014.5	73.03
021.0	100.0000	0232.6	014.8	134.5	004.0000	0141.6	014.7	72.73
022.0	100.0000	0233.8	014.8	134.0	004.0000	0141.1	014.9	72.45
023.0	100.0000	0236.6	014.9	133.3	004.0000	0140.6	015.1	72.36
024.0	100.0000	0239.2	015.0	132.7	004.0000	0140.2	015.4	72.15
025.0	100.0000	0240.2	015.0	132.3	004.0000	0140.2	015.6	71.94
026.0	100.0000	0238.8	015.0	132.2	004.0000	0140.2	015.9	71.73
027.0	100.0000	0236.5	014.9	132.2	004.0000	0140.2	016.1	71.50
028.0	100.0000	0235.1	014.9	132.1	004.0000	0140.3	016.4	71.29
029.0	100.0000	0234.7	014.9	131.9	004.0000	0140.4	016.7	71.08
030.0	100.0000	0233.9	014.8	131.8	004.0000	0140.5	016.9	70.88
031.0	100.0000	0232.5	014.8	131.8	004.0000	0140.6	017.2	70.66
032.0	100.0000	0231.4	014.7	131.8	004.0000	0140.6	017.4	70.45
033.0	100.0000	0230.8	014.7	131.7	004.0000	0140.7	017.7	70.25
034.0	100.0000	0230.4	014.7	131.6	004.0000	0140.8	018.0	70.05
035.0	100.0000	0230.3	014.7	131.5	004.0000	0140.9	018.2	69.84
036.0	100.0000	0230.6	014.7	131.4	004.0000	0141.1	018.5	69.65
037.0	100.0000	0230.9	014.7	131.3	004.0000	0141.2	018.7	69.45
038.0	100.0000	0231.0	014.7	131.3	004.0000	0141.3	019.0	69.25
039.0	100.0000	0230.4	014.7	131.3	004.0000	0141.3	019.2	69.04
040.0	100.0000	0229.7	014.7	131.3	004.0000	0141.2	019.5	68.83
041.0	100.0000	0229.0	014.7	131.4	004.0000	0141.2	019.7	68.62
042.0	100.0000	0229.2	014.7	131.4	004.0000	0141.2	020.0	68.42
043.0	100.0000	0230.1	014.7	131.3	004.0000	0141.3	020.3	68.22
044.0	100.0000	0231.2	014.7	131.2	004.0000	0141.4	020.5	68.02
045.0	100.0000	0231.9	014.8	131.2	004.0000	0141.4	020.8	67.82
046.0	100.0000	0231.8	014.8	131.3	004.0000	0141.3	021.0	67.62
047.0	100.0000	0231.2	014.7	131.4	004.0000	0141.2	021.3	67.41

KJRC LIC 210 C1 Dom 25.000 kW 485 m HAAT MC
 Rapid City SD 2204.0 m COR AMSL -
 Lat = 44 19 41.90, Lng = 103 50 04.70 - NAD 83
 Real Presence Radio
 Fac ID# 90517 BLED20151113BOC
 Dist = 141.36 km, Azi = 95.3°, Rev Azi = 276.6°

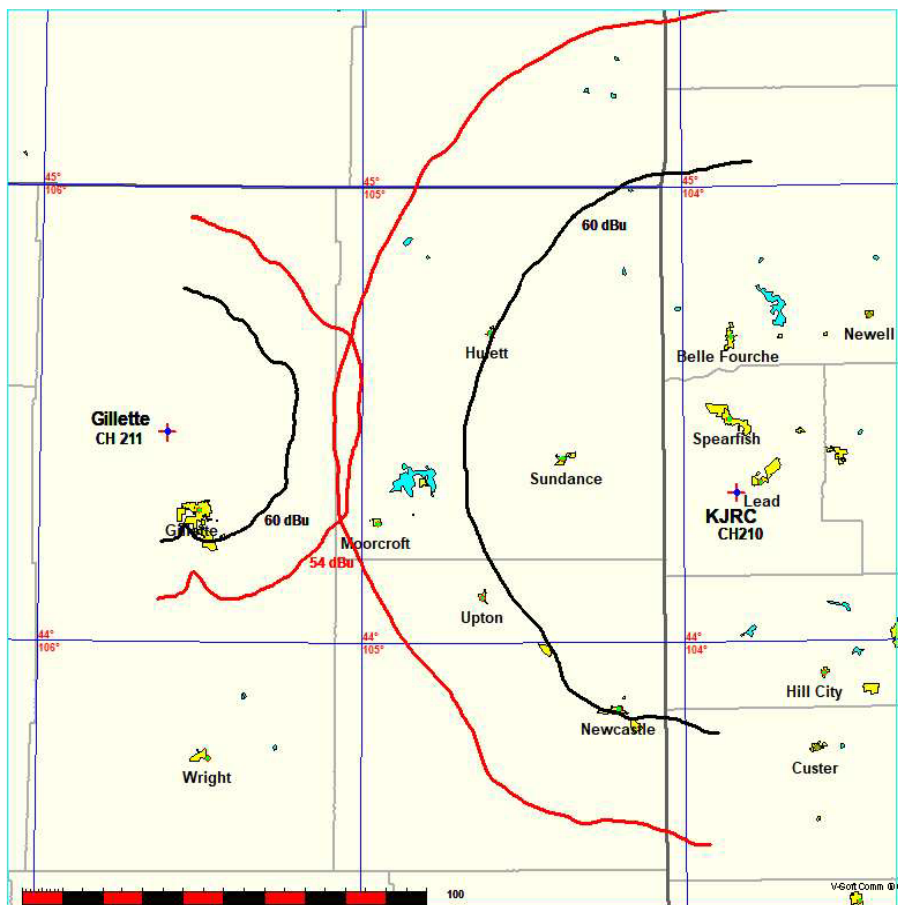
Reference's Greatest Overlaps: (In = 9.32, Out = 25.95)
 Toward Ref: HAAT = 438.9m, 25.0 kW
 Toward Ref: 60 dBu Protected = 67.8 km, Int = 99.96 km
 Direct line Ref. Protected Contour = 30.2 km, Int = 45.85 km
 Direct line Ref. HAAT = 142.7 meters, 4.0 kW

Gillette, WY
 University Of Wyoming

FMCommander Single Allocation Study - 11-04-2021 - GLOBE 30 Sec
 Gillette's Overlaps (In= 11.24 km, Out= 27.74 km)

Gillette CH 211 C3
 Lat= 44 27 36.20, Lng= 105 36 16.00
 4.0 kW 134.4 m HAAT, 1447.2 m COR
 Prot.= 60 dBu, Intef.= 54 dBu

KJRC CH 210 C1 BLED20151113BOC
 Lat= 44 19 41.90, Lng= 103 50 04.70
 25.0 kW 485 m HAAT, 2204 m COR
 Prot.= 60 dBu, Intef.= 54 dBu



11-04-2021 Terrain Data: GLOBE 30 Sec FMOver Analysis

Gillette

KJRC BLED20151113BOC

Channel = 211C3
Max ERP = 4 kW
RCAMSL = 1447.2 m
N. Lat. 44 27 36.20
W. Lng. 105 36 16.00
Protected
60 dBu

Channel = 210C1
Max ERP = 25 kW
RCAMSL = 2204 m
N. Lat. 44 19 41.90
W. Lng. 103 50 04.70
Interfering
54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
035.0	004.0000	0171.1	033.0	289.5	025.0000	0462.9	128.3	47.27	
036.0	004.0000	0169.0	032.8	289.3	025.0000	0463.1	127.8	47.39	
037.0	004.0000	0166.9	032.6	289.2	025.0000	0463.1	127.3	47.51	
038.0	004.0000	0165.2	032.4	289.0	025.0000	0463.2	126.8	47.64	
039.0	004.0000	0163.9	032.3	288.8	025.0000	0463.2	126.3	47.76	
040.0	004.0000	0162.7	032.2	288.7	025.0000	0463.3	125.9	47.88	
041.0	004.0000	0161.7	032.1	288.6	025.0000	0463.4	125.4	48.00	
042.0	004.0000	0160.6	032.0	288.4	025.0000	0463.4	124.9	48.12	
043.0	004.0000	0158.7	031.8	288.2	025.0000	0463.5	124.5	48.23	
044.0	004.0000	0156.0	031.5	288.0	025.0000	0463.6	124.1	48.32	
045.0	004.0000	0153.4	031.2	287.8	025.0000	0463.6	123.8	48.42	
046.0	004.0000	0151.6	031.0	287.6	025.0000	0463.6	123.4	48.51	
047.0	004.0000	0150.5	030.9	287.4	025.0000	0463.6	123.0	48.62	
048.0	004.0000	0149.5	030.8	287.2	025.0000	0463.5	122.6	48.72	
049.0	004.0000	0148.4	030.7	287.0	025.0000	0463.4	122.2	48.82	
050.0	004.0000	0147.8	030.7	286.9	025.0000	0463.3	121.8	48.92	
051.0	004.0000	0148.0	030.7	286.7	025.0000	0463.3	121.3	49.03	
052.0	004.0000	0148.7	030.7	286.6	025.0000	0463.2	120.8	49.15	
053.0	004.0000	0149.6	030.8	286.5	025.0000	0463.1	120.4	49.27	
054.0	004.0000	0150.6	030.9	286.4	025.0000	0463.0	119.9	49.39	
055.0	004.0000	0152.6	031.1	286.3	025.0000	0462.9	119.3	49.53	
056.0	004.0000	0156.7	031.6	286.3	025.0000	0462.9	118.6	49.70	
057.0	004.0000	0162.8	032.2	286.3	025.0000	0462.9	117.8	49.92	
058.0	004.0000	0168.8	032.8	286.4	025.0000	0463.0	117.0	50.13	
059.0	004.0000	0174.6	033.4	286.4	025.0000	0463.0	116.2	50.34	
060.0	004.0000	0179.1	033.8	286.3	025.0000	0462.9	115.5	50.52	
061.0	004.0000	0182.0	034.0	286.2	025.0000	0462.8	114.9	50.67	
062.0	004.0000	0182.7	034.1	286.0	025.0000	0462.7	114.4	50.78	
063.0	004.0000	0182.5	034.1	285.8	025.0000	0462.5	114.0	50.87	
064.0	004.0000	0182.4	034.1	285.5	025.0000	0462.5	113.6	50.97	
065.0	004.0000	0182.0	034.0	285.3	025.0000	0462.6	113.3	51.07	
066.0	004.0000	0181.4	034.0	285.0	025.0000	0462.6	113.0	51.15	
067.0	004.0000	0180.0	033.9	284.8	025.0000	0462.5	112.7	51.22	
068.0	004.0000	0179.0	033.8	284.5	025.0000	0462.3	112.4	51.28	
069.0	004.0000	0178.7	033.7	284.2	025.0000	0461.8	112.1	51.35	
070.0	004.0000	0178.2	033.7	284.0	025.0000	0461.2	111.8	51.41	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
071.0	004.0000	0176.4	033.5	283.7	025.0000	0460.2	111.7	51.42
072.0	004.0000	0173.7	033.3	283.4	025.0000	0459.0	111.6	51.41
073.0	004.0000	0172.4	033.2	283.1	025.0000	0457.9	111.4	51.43
074.0	004.0000	0171.7	033.1	282.8	025.0000	0456.8	111.2	51.45
075.0	004.0000	0169.9	032.9	282.5	025.0000	0455.5	111.1	51.44
076.0	004.0000	0167.4	032.7	282.2	025.0000	0454.1	111.1	51.41
077.0	004.0000	0164.7	032.4	281.8	025.0000	0452.6	111.1	51.36
078.0	004.0000	0162.1	032.1	281.5	025.0000	0451.2	111.1	51.31
079.0	004.0000	0160.0	031.9	281.2	025.0000	0449.8	111.1	51.27
080.0	004.0000	0158.0	031.7	280.9	025.0000	0448.7	111.1	51.24
081.0	004.0000	0155.7	031.4	280.6	025.0000	0447.9	111.2	51.20
082.0	004.0000	0154.2	031.3	280.3	025.0000	0447.3	111.1	51.19
083.0	004.0000	0154.3	031.3	280.0	025.0000	0446.9	111.0	51.23
084.0	004.0000	0154.9	031.4	279.8	025.0000	0446.6	110.8	51.27
085.0	004.0000	0154.5	031.3	279.5	025.0000	0446.3	110.7	51.28
086.0	004.0000	0154.0	031.3	279.2	025.0000	0445.8	110.6	51.29
087.0	004.0000	0153.7	031.2	278.9	025.0000	0445.0	110.5	51.29
088.0	004.0000	0153.5	031.2	278.6	025.0000	0444.1	110.5	51.28
089.0	004.0000	0153.3	031.2	278.4	025.0000	0443.3	110.4	51.27
090.0	004.0000	0151.7	031.0	278.1	025.0000	0442.4	110.5	51.23
091.0	004.0000	0150.1	030.9	277.8	025.0000	0441.7	110.6	51.18
092.0	004.0000	0148.5	030.7	277.5	025.0000	0441.2	110.7	51.14
093.0	004.0000	0147.3	030.6	277.2	025.0000	0440.7	110.8	51.10
094.0	004.0000	0145.2	030.4	276.9	025.0000	0440.0	111.0	51.03
095.0	004.0000	0143.2	030.2	276.7	025.0000	0439.2	111.2	50.96
096.0	004.0000	0142.1	030.1	276.4	025.0000	0438.2	111.3	50.90
097.0	004.0000	0141.4	030.0	276.1	025.0000	0436.9	111.4	50.84
098.0	004.0000	0141.3	030.0	275.8	025.0000	0435.2	111.4	50.79
099.0	004.0000	0141.4	030.0	275.6	025.0000	0433.4	111.4	50.73
100.0	004.0000	0141.3	030.0	275.3	025.0000	0431.7	111.5	50.66
101.0	004.0000	0142.0	030.1	275.0	025.0000	0430.1	111.5	50.62
102.0	004.0000	0142.5	030.1	274.8	025.0000	0428.8	111.5	50.58
103.0	004.0000	0143.3	030.2	274.5	025.0000	0427.9	111.5	50.55
104.0	004.0000	0144.3	030.3	274.2	025.0000	0427.2	111.5	50.53
105.0	004.0000	0145.1	030.4	273.9	025.0000	0426.9	111.5	50.51
106.0	004.0000	0146.3	030.5	273.7	025.0000	0426.6	111.5	50.50
107.0	004.0000	0147.4	030.6	273.4	025.0000	0426.5	111.6	50.49
108.0	004.0000	0149.1	030.8	273.1	025.0000	0426.5	111.5	50.50
109.0	004.0000	0151.4	031.0	272.8	025.0000	0426.5	111.5	50.52
110.0	004.0000	0153.3	031.2	272.5	025.0000	0426.5	111.4	50.52
111.0	004.0000	0156.0	031.5	272.2	025.0000	0426.4	111.4	50.54
112.0	004.0000	0158.5	031.7	271.9	025.0000	0426.4	111.3	50.55
113.0	004.0000	0160.1	031.9	271.6	025.0000	0426.4	111.4	50.53
114.0	004.0000	0160.6	032.0	271.3	025.0000	0426.3	111.5	50.49
115.0	004.0000	0159.7	031.9	271.1	025.0000	0426.2	111.9	50.40
116.0	004.0000	0157.8	031.7	270.9	025.0000	0425.6	112.3	50.28
117.0	004.0000	0155.2	031.4	270.7	025.0000	0425.1	112.8	50.14
118.0	004.0000	0152.2	031.1	270.5	025.0000	0424.9	113.3	49.99
119.0	004.0000	0149.4	030.8	270.3	025.0000	0424.7	113.8	49.86
120.0	004.0000	0147.4	030.6	270.1	025.0000	0424.6	114.3	49.74
121.0	004.0000	0146.3	030.5	269.9	025.0000	0424.6	114.6	49.64

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
122.0	004.0000	0146.2	030.5	269.7	025.0000	0424.6	114.9	49.57
123.0	004.0000	0146.7	030.5	269.5	025.0000	0424.5	115.2	49.50
124.0	004.0000	0147.3	030.6	269.3	025.0000	0424.5	115.4	49.43
125.0	004.0000	0147.9	030.7	269.0	025.0000	0424.5	115.7	49.36
126.0	004.0000	0147.9	030.7	268.8	025.0000	0424.4	116.0	49.28
127.0	004.0000	0147.2	030.6	268.6	025.0000	0424.4	116.4	49.18
128.0	004.0000	0146.3	030.5	268.5	025.0000	0424.4	116.8	49.07
129.0	004.0000	0145.2	030.4	268.3	025.0000	0424.4	117.3	48.96
130.0	004.0000	0143.7	030.2	268.2	025.0000	0424.4	117.7	48.84
131.0	004.0000	0141.8	030.1	268.0	025.0000	0424.3	118.2	48.71
132.0	004.0000	0140.4	029.9	267.9	025.0000	0424.3	118.7	48.59
133.0	004.0000	0140.3	029.9	267.7	025.0000	0424.3	119.1	48.49
134.0	004.0000	0141.1	030.0	267.5	025.0000	0424.3	119.4	48.41
135.0	004.0000	0142.1	030.1	267.3	025.0000	0424.3	119.7	48.32
136.0	004.0000	0143.2	030.2	267.1	025.0000	0424.2	120.1	48.24
137.0	004.0000	0144.4	030.3	266.9	025.0000	0423.9	120.4	48.14
138.0	004.0000	0144.9	030.4	266.8	025.0000	0423.4	120.8	48.03
139.0	004.0000	0144.3	030.3	266.6	025.0000	0422.8	121.3	47.90
140.0	004.0000	0142.6	030.1	266.5	025.0000	0422.4	121.8	47.75
141.0	004.0000	0140.8	030.0	266.5	025.0000	0422.1	122.3	47.61
142.0	004.0000	0139.9	029.9	266.4	025.0000	0421.6	122.8	47.47
143.0	004.0000	0139.7	029.9	266.2	025.0000	0421.0	123.2	47.34
144.0	004.0000	0139.2	029.8	266.1	025.0000	0420.5	123.7	47.20
145.0	004.0000	0138.1	029.7	266.1	025.0000	0420.0	124.2	47.06
146.0	004.0000	0136.7	029.6	266.0	025.0000	0419.7	124.7	46.92
147.0	004.0000	0135.5	029.5	265.9	025.0000	0419.3	125.2	46.78
148.0	004.0000	0134.8	029.4	265.9	025.0000	0418.8	125.7	46.64
149.0	004.0000	0134.9	029.4	265.7	025.0000	0418.0	126.2	46.51
150.0	004.0000	0135.1	029.4	265.6	025.0000	0417.3	126.6	46.37
151.0	004.0000	0134.7	029.4	265.6	025.0000	0416.7	127.1	46.23
152.0	004.0000	0133.4	029.3	265.5	025.0000	0416.5	127.6	46.09
153.0	004.0000	0131.7	029.1	265.5	025.0000	0416.4	128.2	45.95
154.0	004.0000	0130.1	029.0	265.5	025.0000	0416.2	128.7	45.82

11-04-2021 Terrain Data: GLOBE 30 Sec FMOver Analysis

KJRC BLED20151113BOC

Gillette

Channel = 210C1
 Max ERP = 25 kW
 RCAMSL = 2204 m
 N. Lat. 44 19 41.90
 W. Lng. 103 50 04.70
 Protected
 60 dBu

Channel = 211C3
 Max ERP = 4 kW
 RCAMSL = 1447.2 m
 N. Lat. 44 27 36.20
 W. Lng. 105 36 16.00
 Interfering
 54 dBu

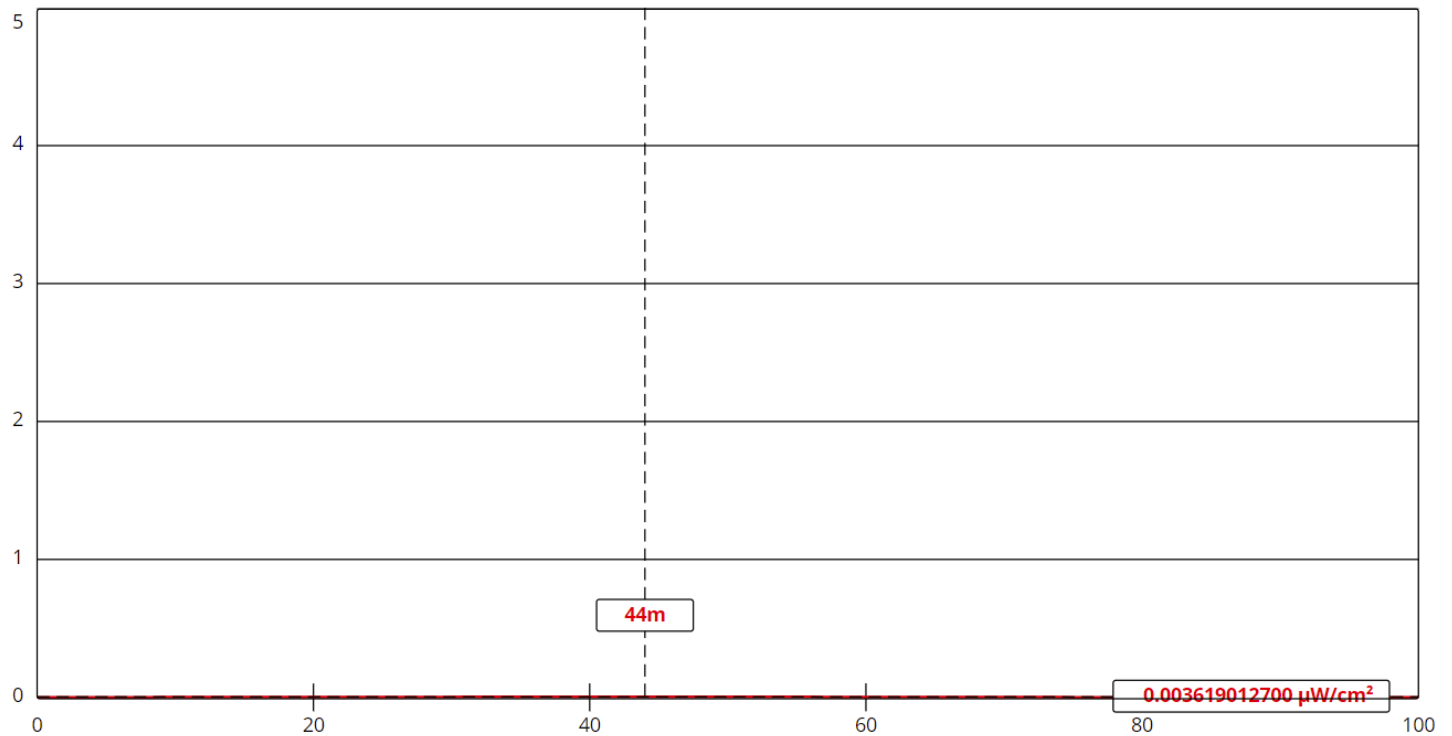
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
217.0	025.0000	0363.6	063.0	121.7	004.0000	0146.1	122.2	31.91	
218.0	025.0000	0364.3	063.0	121.7	004.0000	0146.1	121.1	32.12	
219.0	025.0000	0365.2	063.1	121.7	004.0000	0146.1	120.0	32.32	
220.0	025.0000	0366.6	063.2	121.7	004.0000	0146.1	118.9	32.53	
221.0	025.0000	0367.9	063.3	121.6	004.0000	0146.1	117.8	32.73	
222.0	025.0000	0366.9	063.2	121.5	004.0000	0146.1	116.7	32.94	
223.0	025.0000	0362.3	062.9	121.3	004.0000	0146.2	115.7	33.13	
224.0	025.0000	0355.7	062.4	121.0	004.0000	0146.3	114.7	33.33	
225.0	025.0000	0347.1	061.9	120.5	004.0000	0146.7	113.7	33.52	
226.0	025.0000	0338.3	061.3	120.1	004.0000	0147.2	112.8	33.71	
227.0	025.0000	0329.7	060.7	119.7	004.0000	0147.9	112.0	33.90	
228.0	025.0000	0322.6	060.2	119.3	004.0000	0148.7	111.1	34.10	
229.0	025.0000	0318.2	059.9	119.0	004.0000	0149.5	110.2	34.31	
230.0	025.0000	0315.4	059.7	118.7	004.0000	0150.2	109.3	34.53	
231.0	025.0000	0313.2	059.5	118.4	004.0000	0151.0	108.4	34.75	
232.0	025.0000	0310.5	059.3	118.1	004.0000	0151.8	107.5	34.97	
233.0	025.0000	0308.4	059.2	117.8	004.0000	0152.7	106.6	35.20	
234.0	025.0000	0306.1	059.0	117.5	004.0000	0153.6	105.7	35.43	
235.0	025.0000	0304.4	058.9	117.2	004.0000	0154.5	104.8	35.67	
236.0	025.0000	0303.6	058.9	116.9	004.0000	0155.4	104.0	35.91	
237.0	025.0000	0304.2	058.9	116.7	004.0000	0156.1	103.0	36.16	
238.0	025.0000	0306.0	059.0	116.5	004.0000	0156.7	102.1	36.42	
239.0	025.0000	0309.1	059.2	116.3	004.0000	0157.2	101.1	36.68	
240.0	025.0000	0312.8	059.5	116.1	004.0000	0157.7	100.1	36.96	
241.0	025.0000	0316.6	059.8	115.9	004.0000	0158.1	099.0	37.24	
242.0	025.0000	0320.8	060.0	115.7	004.0000	0158.5	098.0	37.53	
243.0	025.0000	0325.2	060.3	115.5	004.0000	0158.9	097.0	37.83	
244.0	025.0000	0329.5	060.6	115.2	004.0000	0159.3	096.0	38.12	
245.0	025.0000	0333.5	060.9	115.0	004.0000	0159.7	095.0	38.42	
246.0	025.0000	0337.5	061.2	114.7	004.0000	0160.1	094.0	38.72	
247.0	025.0000	0340.8	061.4	114.3	004.0000	0160.4	093.0	39.00	
248.0	025.0000	0344.8	061.7	114.0	004.0000	0160.6	092.0	39.29	
249.0	025.0000	0347.9	061.9	113.7	004.0000	0160.6	091.1	39.56	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
250.0	025.0000	0350.0	062.1	113.2	004.0000	0160.3	090.2	39.81
251.0	025.0000	0352.3	062.2	112.8	004.0000	0159.8	089.4	40.04
252.0	025.0000	0355.5	062.4	112.4	004.0000	0159.2	088.5	40.28
253.0	025.0000	0359.4	062.7	112.0	004.0000	0158.5	087.6	40.52
254.0	025.0000	0363.7	063.0	111.5	004.0000	0157.5	086.6	40.76
255.0	025.0000	0367.4	063.2	111.0	004.0000	0156.2	085.8	40.97
256.0	025.0000	0371.0	063.5	110.5	004.0000	0154.7	084.9	41.16
257.0	025.0000	0375.4	063.7	110.0	004.0000	0153.4	084.1	41.37
258.0	025.0000	0380.2	064.0	109.5	004.0000	0152.4	083.2	41.58
259.0	025.0000	0384.5	064.3	109.0	004.0000	0151.3	082.4	41.79
260.0	025.0000	0387.5	064.5	108.3	004.0000	0149.9	081.6	41.95
261.0	025.0000	0390.7	064.7	107.7	004.0000	0148.5	080.9	42.11
262.0	025.0000	0394.4	064.9	107.1	004.0000	0147.5	080.2	42.28
263.0	025.0000	0399.4	065.2	106.4	004.0000	0146.7	079.4	42.48
264.0	025.0000	0405.5	065.6	105.8	004.0000	0146.0	078.6	42.70
265.0	025.0000	0412.8	066.1	105.1	004.0000	0145.3	077.7	42.92
266.0	025.0000	0419.7	066.5	104.5	004.0000	0144.6	076.9	43.14
267.0	025.0000	0424.1	066.8	103.7	004.0000	0144.1	076.3	43.32
268.0	025.0000	0424.3	066.8	102.9	004.0000	0143.2	075.9	43.38
269.0	025.0000	0424.5	066.8	102.0	004.0000	0142.5	075.6	43.45
270.0	025.0000	0424.6	066.8	101.2	004.0000	0142.1	075.3	43.51
271.0	025.0000	0426.1	066.9	100.3	004.0000	0141.5	075.0	43.58
272.0	025.0000	0426.4	067.0	099.4	004.0000	0141.2	074.8	43.64
273.0	025.0000	0426.5	067.0	098.5	004.0000	0141.3	074.6	43.69
274.0	025.0000	0426.9	067.0	097.6	004.0000	0141.4	074.5	43.74
275.0	025.0000	0429.9	067.2	096.7	004.0000	0141.4	074.2	43.83
276.0	025.0000	0436.2	067.6	095.8	004.0000	0142.2	073.8	44.00
277.0	025.0000	0440.2	067.9	094.9	004.0000	0143.4	073.5	44.15
278.0	025.0000	0442.3	068.0	094.0	004.0000	0145.2	073.4	44.27
279.0	025.0000	0445.3	068.2	093.1	004.0000	0147.2	073.3	44.41
280.0	025.0000	0446.9	068.3	092.1	004.0000	0148.3	073.3	44.46
281.0	025.0000	0449.1	068.5	091.2	004.0000	0149.8	073.3	44.53
282.0	025.0000	0453.4	068.8	090.2	004.0000	0151.4	073.2	44.64
283.0	025.0000	0457.7	069.1	089.3	004.0000	0152.9	073.1	44.73
284.0	025.0000	0461.2	069.3	088.3	004.0000	0153.5	073.2	44.75
285.0	025.0000	0462.6	069.4	087.4	004.0000	0153.7	073.4	44.68
286.0	025.0000	0462.7	069.4	086.5	004.0000	0153.8	073.8	44.58
287.0	025.0000	0463.4	069.5	085.6	004.0000	0154.1	074.1	44.48
288.0	025.0000	0463.6	069.5	084.7	004.0000	0154.8	074.5	44.38
289.0	025.0000	0463.2	069.5	083.8	004.0000	0154.8	075.0	44.22
290.0	025.0000	0462.7	069.4	083.0	004.0000	0154.3	075.6	44.02
291.0	025.0000	0462.5	069.4	082.2	004.0000	0154.1	076.1	43.84
292.0	025.0000	0463.8	069.5	081.4	004.0000	0154.9	076.6	43.72
293.0	025.0000	0466.6	069.7	080.5	004.0000	0156.8	077.1	43.67
294.0	025.0000	0470.1	069.9	079.6	004.0000	0158.8	077.5	43.62
295.0	025.0000	0473.0	070.2	078.8	004.0000	0160.4	078.0	43.53
296.0	025.0000	0474.8	070.3	078.0	004.0000	0162.0	078.6	43.41
297.0	025.0000	0476.2	070.4	077.3	004.0000	0163.8	079.3	43.28
298.0	025.0000	0477.5	070.5	076.5	004.0000	0166.0	080.0	43.16
299.0	025.0000	0478.8	070.6	075.8	004.0000	0167.8	080.7	43.00
300.0	025.0000	0481.6	070.8	075.1	004.0000	0169.6	081.4	42.86

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
301.0	025.0000	0485.8	071.1	074.3	004.0000	0171.3	082.1	42.73
302.0	025.0000	0490.6	071.4	073.6	004.0000	0172.1	082.7	42.55
303.0	025.0000	0493.6	071.6	072.9	004.0000	0172.5	083.5	42.33
304.0	025.0000	0495.7	071.8	072.3	004.0000	0173.2	084.4	42.09
305.0	025.0000	0497.7	071.9	071.7	004.0000	0174.5	085.3	41.87
306.0	025.0000	0499.7	072.1	071.1	004.0000	0176.1	086.2	41.65
307.0	025.0000	0501.9	072.2	070.5	004.0000	0177.6	087.1	41.42
308.0	025.0000	0504.3	072.4	070.0	004.0000	0178.2	088.1	41.15
309.0	025.0000	0507.0	072.6	069.4	004.0000	0178.5	089.1	40.87
310.0	025.0000	0510.3	072.8	068.9	004.0000	0178.7	090.0	40.58
311.0	025.0000	0512.9	072.9	068.4	004.0000	0178.9	091.1	40.28
312.0	025.0000	0515.9	073.1	067.9	004.0000	0179.1	092.1	39.98
313.0	025.0000	0520.9	073.5	067.4	004.0000	0179.5	093.1	39.70
314.0	025.0000	0528.0	073.9	066.8	004.0000	0180.3	094.1	39.44
315.0	025.0000	0535.7	074.4	066.2	004.0000	0181.1	095.1	39.18
316.0	025.0000	0542.1	074.8	065.7	004.0000	0181.6	096.2	38.89
317.0	025.0000	0546.0	075.0	065.3	004.0000	0181.8	097.3	38.57
318.0	025.0000	0545.7	075.0	065.1	004.0000	0182.0	098.6	38.23
319.0	025.0000	0542.3	074.8	065.0	004.0000	0182.1	099.9	37.87
320.0	025.0000	0539.9	074.6	064.8	004.0000	0182.1	101.1	37.53
321.0	025.0000	0542.1	074.8	064.6	004.0000	0182.2	102.4	37.21
322.0	025.0000	0548.0	075.1	064.2	004.0000	0182.3	103.6	36.91
323.0	025.0000	0556.2	075.5	063.8	004.0000	0182.4	104.7	36.61
324.0	025.0000	0565.1	076.0	063.4	004.0000	0182.4	105.9	36.31
325.0	025.0000	0574.8	076.5	063.1	004.0000	0182.5	107.2	36.02
326.0	025.0000	0584.9	076.9	062.7	004.0000	0182.5	108.4	35.73
327.0	025.0000	0596.0	077.4	062.4	004.0000	0182.6	109.7	35.44
328.0	025.0000	0607.9	077.9	062.0	004.0000	0182.7	111.0	35.16
329.0	025.0000	0617.5	078.3	061.8	004.0000	0182.7	112.3	34.88
330.0	025.0000	0625.2	078.6	061.6	004.0000	0182.6	113.7	34.61
331.0	025.0000	0631.2	078.8	061.5	004.0000	0182.6	115.0	34.33
332.0	025.0000	0634.0	078.9	061.4	004.0000	0182.5	116.4	34.05
333.0	025.0000	0634.0	078.9	061.4	004.0000	0182.5	117.8	33.77
334.0	025.0000	0633.0	078.9	061.4	004.0000	0182.5	119.2	33.50
335.0	025.0000	0633.9	078.9	061.4	004.0000	0182.5	120.5	33.23
336.0	025.0000	0637.7	079.0	061.4	004.0000	0182.5	121.9	32.95

RF Hazard Study

The proposed facility would be the sole FM Broadcast facility at this site. Utilizing the FCC FM Model shows that the power density from the proposed 3-bay type #3 antenna with an effective radiated power of 4.0 kW and COR of 90 m A.G. would produce $0.003619012700 \mu\text{W}.\text{cm}^2$ at 44m from the tower base. Note that there is no point along the graph where the power density exceeds the maximum allowed under the rules ($1,000 \mu\text{W}.\text{cm}^2$). The applicant will reduce power or terminate transmissions when necessary to protect the public or workers on or near the tower.



Distance (m)	Power Density ($\mu\text{W}/\text{cm}^2$)
0	0.0
1	0.0
2	0.0
3	0.0
4	0.0
5	0.0
6	0.0
7	0.0
8	0.0
9	0.0
10	0.0
11	0.0
12	0.0
13	0.0
14	0.0
15	0.0
16	0.0
17	0.0
18	0.0
19	0.0
20	0.0
21	0.0
22	0.0
23	0.0
24	0.0
25	0.0
26	0.0
27	0.0
28	0.0
29	0.0
30	0.0

31	0.0
32	0.0
33	0.0
34	0.0
35	0.0
36	0.0
37	0.0
38	0.0
39	0.0
40	0.0
41	0.0
42	0.0
43	0.0
44	0.0
45	0.0
46	0.0
47	0.0
48	0.0
49	0.0
50	0.0
51	0.0
52	0.0
53	0.0
54	0.0
55	0.0
56	0.0
57	0.0
58	0.0
59	0.0
60	0.0
61	0.0
62	0.0
63	0.0
64	0.0
65	0.0
66	0.0
67	0.0
68	0.0
69	0.0
70	0.0

71	0.0
72	0.0
73	0.0
74	0.0
75	0.0
76	0.0
77	0.0
78	0.0
79	0.0
80	0.0
81	0.0
82	0.0
83	0.0
84	0.0
85	0.0
86	0.0
87	0.0
88	0.0
89	0.0
90	0.0
91	0.0
92	0.0
93	0.0
94	0.0
95	0.0
96	0.0
97	0.0
98	0.0
99	0.0
100	0.0

HOW TO READ THE FM COMPUTER PRINT-OUT

The computer printout should be self-explanatory for the most part. The parameters of the station being checked, (reference station) are printed in the heading. Contour distances are in kilometers and are predicted using the Commission's TVFMINT FORTRAN subroutine. When interference contour distances are less than 16 kilometers the F(50-50) tables are used. If signal contour distances are less than 1.6 km the free-space equation is used.

The column listed "IN " is the difference in kilometers between of the reference station's protected contour and the data file station's interference contour at the closest point between the contours. (All distances are derived by the method detailed in Sec. 73.208 of the Rules and Regulations as amended in Docket 80-90.) Therefore, "IN" column is a measure of incoming interference. Negative distances in this column indicate the presence of contour overlap. Listed antenna heights and power are those given in the FCC database. The column labeled "OUT " shows the greatest distance in kilometers of overlap or smallest of clearance between the reference station's interference contour and the database station's protected contour. Negative distance figures in this column indicate outgoing contour overlap.

Under the "AZI" column, the first row of numbers indicate the True North bearings from the reference station toward the database stations, while the numbers in the second row indicate the reverse bearings from the database stations to the reference station.

The columns labeled "INT" and "PRO" contain the distance in kilometers of the appropriate interference contour and the protected contour of a data base station.

For I.F. relationships, some channel-six TV relationships and relationships with commercial channel stations providing clearance the minimum spacings values the "IN" and "OUT" columns can change their significance. The letter "R" stands for the minimum **required** distance in kilometers, while the letter "M" in the next column follows the **available clear space** (or lack of it) in kilometers. Minimum separation distances when displayed are taken from Sec 73.207 of the rules as amended. Canadian and Mexican separation distances, U/D ratios and protected contour values are from the US/Mexican Working Agreement and the US/Canada Working Agreement".

The call letters of stations meeting the minimum separation distances under the rules will be flagged by the characters "<<" appended to the right-hand side of the call sign. The "^" character appended to the call sign means the station has been "max-classed" according to the provisions of section 73.525 of the Rules.

The first three letters of the "TYPE" column identify the current FCC status of the stations. The fourth letter will be a "D" if the facility is directional. "Z" indicates a 73.215 directional. An "N" indicates it is a 73.215 station that operates with an omni-directional antenna. The fifth letter will be an E, H or V depending on the type of antenna polarization. The sixth letter will be a "Y" if the antenna uses beam tilt or an "X" if the commission is not sure, otherwise it will be an "N" or left blank.

Translator relationships with LPTV/Translators are calculated using the 62 dBu protected and the F(50-10) interference contour, as defined in section 74.1205 of the Rules.

Proposed Gillette Tower Site

N. Lat. 44-27-36.20

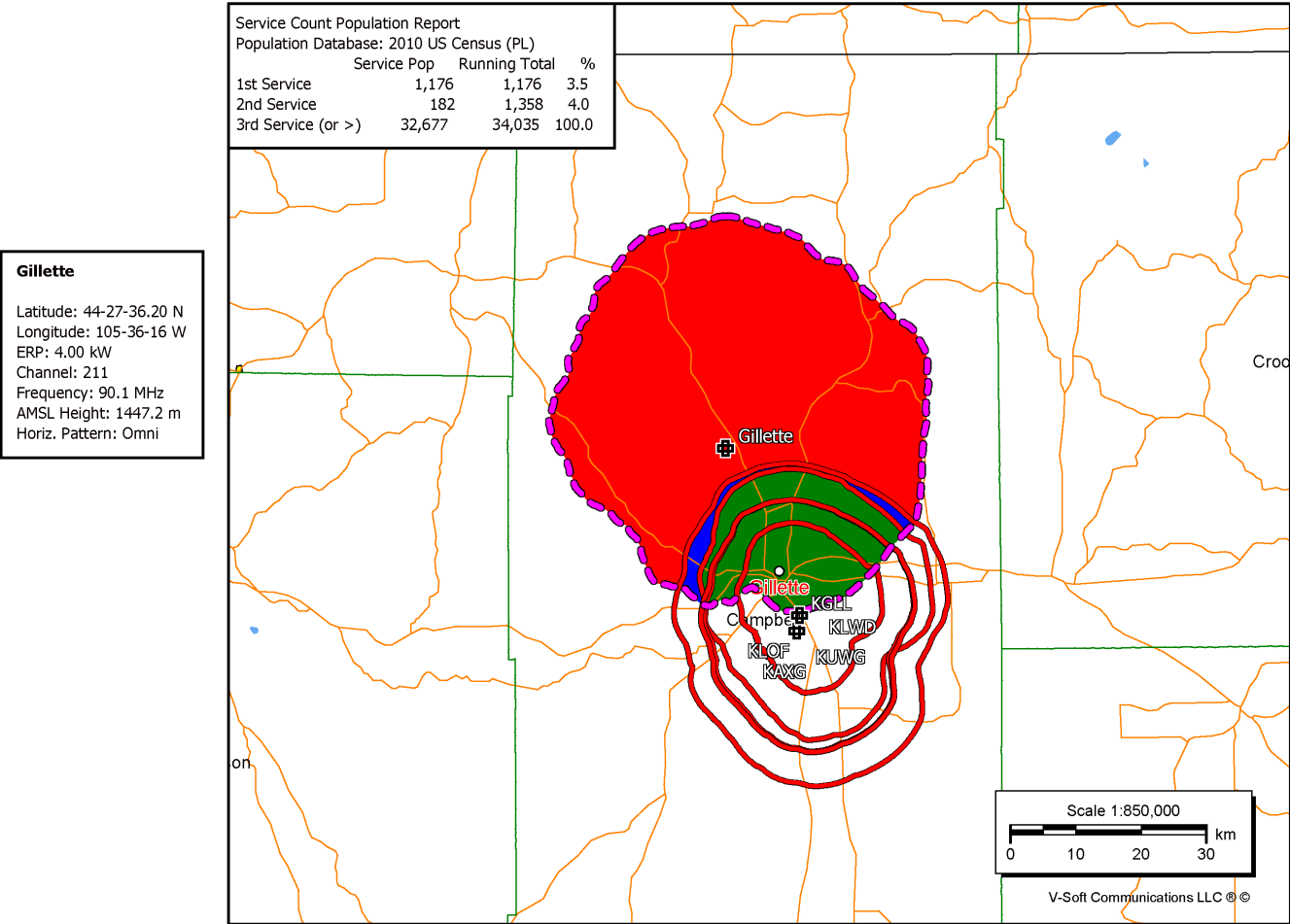
W. Long. 105-36-16.00

Base Elevation 1357.2 m



Site availability confirmation: Visionary Communications, Preston Schilling, Agent, (888)682-1884 (11/3/2021)

Service Count Population Count



Declaration:

I, Paul Montoya, declare that I have been active in broadcast engineering for over 45 years.

That, I have held a Federal Communications Commission First Class Radiotelephone License continually since 1977. In 1985, this license was reissued by the Commission as a lifetime General Radiotelephone license no. PG-15-10699.

That, I am certified as a Certified Senior Radio Engineer (#7040) by the Society of Broadcast Engineers, Indianapolis, Indiana.

That, my qualifications are a matter of record with the Federal Communications Commission.

That, I am employed by the University of Wyoming as Director of Engineering and have prepared the engineering showings appended hereto.

That, I have prepared these broadcast engineering showings, the technical information contained in same, and the facts stated within are true of my knowledge.

That, under penalty of perjury, I declare that the foregoing is correct.

Paul Montoya



Executed on November 1, 2021