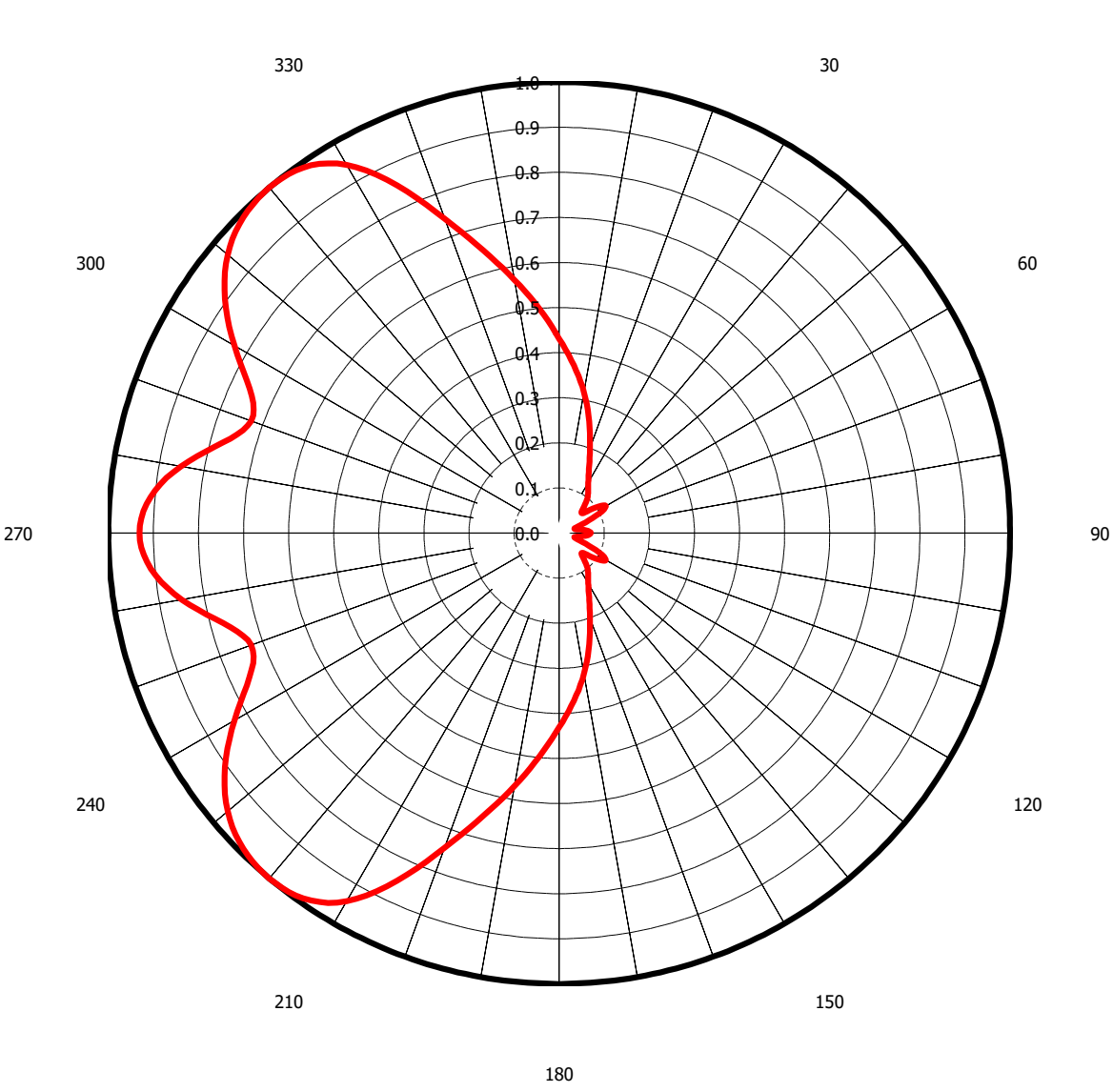
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Digital Television and Radio

Displacement Application

LPTV or Translator Facility:	K43OH-D Racine, MN Facility ID 186458 Authorized Ch. 43 File# BNPDTL-20100510AKA
Nature of Displacement:	Within 600 MHz wireless spectrum
Proposed Facility:	Ch. 29 2 kW ERP Directional Azimuth pattern in Figure 1
Modification Compliance:	16.9 km from authorized site Contour comparison in Figure 2 TVStudy Analysis report in Table 1 Satisfies 121 km geographic restriction of DA 09-1487
RF Exposure:	The calculated signal density near the tower at two meters above ground level attributable to the proposed facility is 4.1 percent of the general population/uncontrolled maximum permitted exposure limit. Calculations conducted pursuant to FCC OET Bulletin Number 65 and incorporate 20 percent relative field at downward angles (from antenna elevation pattern data). This is below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent.

Chesapeake RF Consultants, LLC
Joseph M. Davis, P.E. August 19, 2021
207 Old Dominion Road Yorktown, VA 23692 703-650-9600

Azimuth Pattern
Relative Field
True North



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Figure 1
Antenna Azimuthal Pattern
K43OH-D Racine, MN
Facility ID 186458
Ch. 29 2 kW Directional

prepared for
Gray Television Licensee, LLC

August, 2021

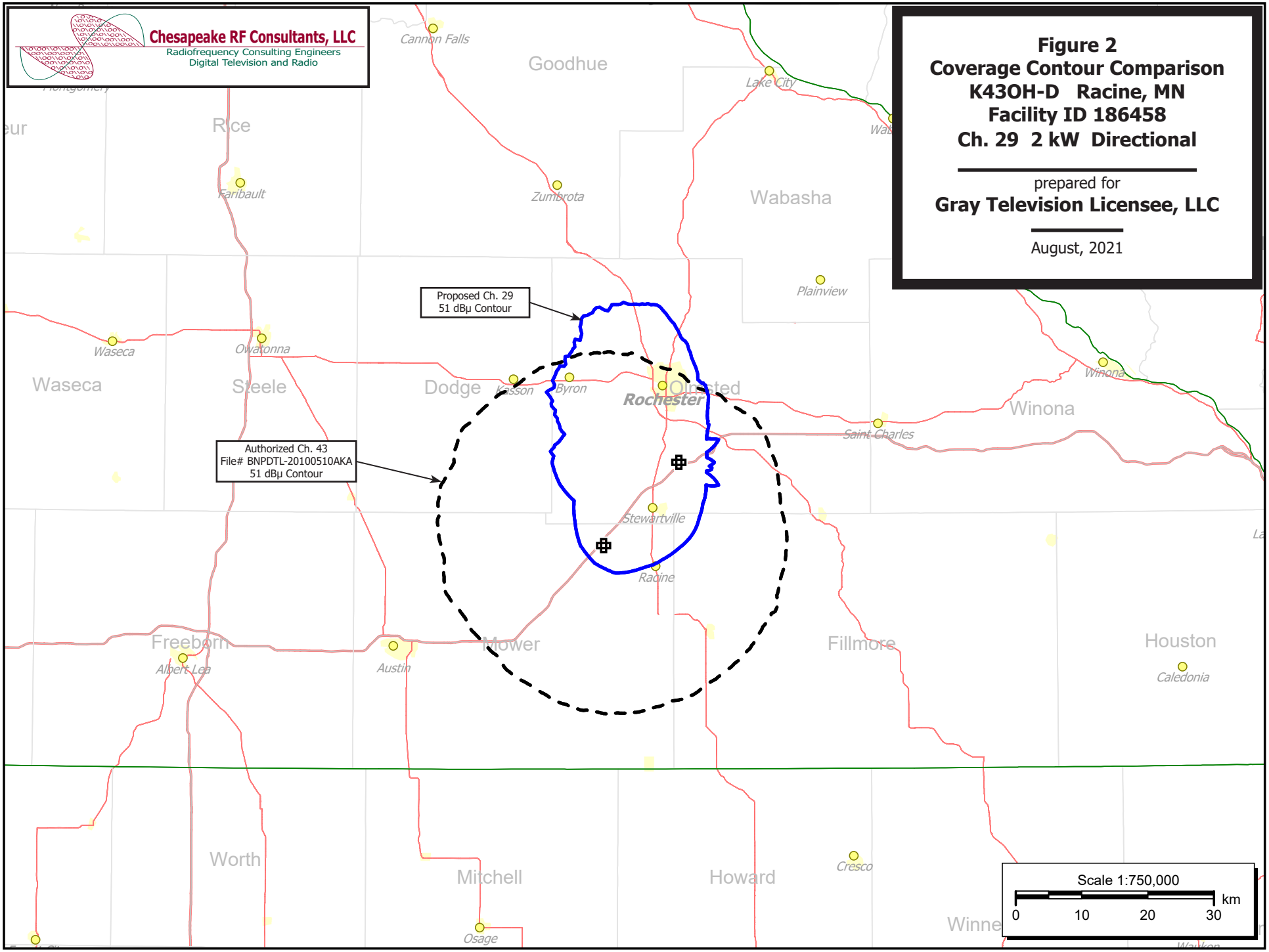

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Figure 2
Coverage Contour Comparison
K43OH-D Racine, MN
Facility ID 186458
Ch. 29 2 kW Directional
prepared for
Gray Television Licensee, LLC
August, 2021
Proposed Ch. 29
51 dBµ Contour
Authorized Ch. 43
File# BNPDTL-20100510AKA
51 dBµ Contour
Cannon Falls
Goodhue
Lake City
Rice
Faribault
Zumbrota
Wabasha
Plainview
Waseca
Owatonna
Steele
Dodge
Kasson
Byron
Olmsted
Rochester
Winona
Saint Charles
Stewartville
Racine
Freeborn
Albert Lea
Austin
Mower
Fillmore
Houston
Caledonia
Worth
Mitchell
Howard
Cresco
Osage
Scale 1:750,000
km
0
10
20
30

Table 1 K43OH-D TVStudy Analysis of Proposal

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```
tvstudy v2.2.5 (4uoc83)
Database: localhost,  Study: K43OH-D Prop29,  Model: Longley-Rice
Start: 2021.08.19 09:15:59

Study created: 2021.08.19 09:15:59

Study build station data: LMS TV 2021-08-19

    Proposal: K43OH-D D29 LD APP RACINE, MN
 File number: K43OH-D Prop29
 Facility ID: 186458
Station data: User record
   Record ID: 3817
     Country: U.S.

Build options:
Protect pre-transition records not on baseline channel

Search options:
Baseline record excluded if station has CP

Stations potentially affected by proposal:
```

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	K28OH-D	D28	LD	LIC	ST. JAMES, MN	BLANK0000064440	173.7 km
No	W28DT-D	D28	LD	CP	GALESVILLE, WI	BNPDTL20090825CBB	99.4
No	WXOW	D28	DT	LIC	LA CROSSE, WI	BLANK0000058613	86.8
No	KGAN	D29	DT	LIC	CEDAR RAPIDS, IA	BLCDT20140416AAI	184.1
No	DDK30NF-D	D29	LD	APP	KEOKUK, IA	BLANK0000072001	401.0
No	KBWF-LD	D29	LD	LIC	SIOUX CITY, IA	BLANK0000063408	360.5
No	WAUR-LD	D29	LD	LIC	AURORA, IL	BLANK0000107754	402.3
No	WAUR-LD	D29	LD	CP	AURORA, IL	BLANK0000108665	423.5
No	WMAQ-TV	D29	DT	LIC	CHICAGO, IL	BLANK0000053194	451.9
No	K29NY-D	D29	LD	CP	ALEXANDRA, MN	BLANK0000073085	322.9
No	K29IF-D	D29	LD	LIC	FROST, MN	BLDTL20080505ABD	125.2
No	K29EB-D	D29-	LD	LIC	GRAND RAPIDS, MN	BLANK0000016819	387.6
No	K29JW-D	D29	LD	LIC	GRANITE FALLS, MN	BLDTT20110824ACG	268.4
No	K29LV-D	D29	LD	LIC	JACKSON, MN	BLANK0000064447	207.9
Yes	WFTC	D29	DT	LIC	MINNEAPOLIS, MN	BLCDT20100809CJF	138.0
No	K48GQ-D	D29	LD	LIC	REDWOOD FALLS, MN	BLANK0000063427	213.2
No	K29JH-D	D29	LD	CP	ST CHARLES, MN	BNPDTL20090825BXT	38.2
No	K29IE-D	D29	LD	LIC	ST. JAMES, MN	BLDTT20090817ACY	173.9
No	KXVO	D29	DT	LIC	OMAHA, NE	BLANK0000078842	443.1
No	W29ET-D	D29	LD	LIC	COLOMA, WI	BLANK0000060433	230.7
No	W29DQ-D	D29	LD	CP	EAU CLAIRE, WI	BNPDTL20090825AYN	123.3
No	WDJT-TV	D29	DT	LIC	MILWAUKEE, WI	BLANK0000086892	374.2
No	WPVS-LP	N29z	TX	LIC	MILWAUKEE, WI	BLTTL20080221AAP	364.3
No	KSTC-TV	D30	DT	LIC	MINNEAPOLIS, MN	BLANK0000080959	138.9
No	K30QY-D	D30	LD	CP	OAKLAND, MN	BLANK0000153906	59.3
No	K30FN-D	D30	LD	LIC	ST. JAMES, MN	BLANK0000124535	173.7
No	WEAU	D30	LD	LIC	EAU CLAIRE, WI	BLANK0000124038	86.4
No	W30EN-D	D30	LD	CP	EAU CLAIRE, WI	BLANK0000071871	123.3

```
No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

    Channel: D29
       Mask: Full Service
   Latitude:  43 55  2.10 N (NAD83)
  Longitude:  92 26 20.70 W
Height AMSL: 396.8 m
       HAAT: 0.0 m
   Peak ERP: 2.00 kW
    Antenna: KAT K723147 1x2 270.0 deg
Elev Pattrn: Generic

50.2 dBu contour:
Azimuth      ERP       HAAT   Distance
  0.0 deg  0.372 kW    67.3 m   20.7 km
 45.0      0.013       32.6      6.3
```

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90.0	0.010	26.6	5.6
135.0	0.013	6.0	6.1
180.0	0.372	12.5	13.6
225.0	1.92	12.3	20.7
270.0	1.73	24.5	20.2
315.0	1.92	43.3	24.2

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 28 m

Distance to Canadian border: 463.6 km

Distance to Mexican border: 1760.3 km

Conditions at FCC monitoring station: Allegan MI
Bearing: 103.3 degrees Distance: 544.5 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 252.8 degrees Distance: 1133.9 km

Study cell size: 1.00 km
Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%

Interference to BLCDT20100809CJF LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WFTC	D29	DT	LIC	MINNEAPOLIS, MN	BLCDT20100809CJF	
Undesireds:	K43OH-D	D29	LD	APP	RACINE, MN	K43OH-D Prop29	138.0 km
	KGAN	D29	DT	LIC	CEDAR RAPIDS, IA	BLCDT20140416AAI	321.3
	KSTC-TV	D30	DT	LIC	MINNEAPOLIS, MN	BLANK0000080959	1.3

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
36050.2	3,786,936	35475.6	3,771,055	35117.6	3,756,615	34970.8	3,754,707	0.42	0.05

Undesired	Total IX		Unique IX, before		Unique IX, after	
K43OH-D D29 LD APP	196.1	3,601			146.8	1,908
KGAN D29 DT LIC	152.0	5,363	151.0	5,363	102.7	3,689
KSTC-TV D30 DT LIC	207.0	9,077	206.0	9,077	205.0	9,058

Interference to proposal scenario 1
8.40% interference received

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	K43OH-D	D29	LD	APP	RACINE, MN	K43OH-D Prop29	
Undesireds:	KGAN	D29	DT	LIC	CEDAR RAPIDS, IA	BLCDT20140416AAI	184.1 km
	WFTC	D29	DT	LIC	MINNEAPOLIS, MN	BLCDT20100809CJF	138.0
	K29JH-D	D29	LD	CP	ST CHARLES, MN	BNPDTL20090825BXT	38.2

Service area		Terrain-limited		IX-free		Percent IX	
846.6	129,609	834.5	129,461	762.8	118,585	8.59	8.40

Undesired	Total IX		Unique IX		Prcnt Unique IX	
KGAN D29 DT LIC	39.3	8,663	19.2	7,782	2.30	6.01
WFTC D29 DT LIC	45.4	3,046	22.2	1,600	2.66	1.24
K29JH-D D29 LD CP	16.2	902	6.1	48	0.73	0.04