

DELAUDER COMMUNICATIONS, INC.

P.O. Box 1095
Ashburn, Virginia 20146-1095
(703) 299-9222

ENGINEERING REPORT

WOIL-CD, Talladega (AL) Minor Modification (Channel 23)

ENGINEERING STATEMENT

This is a minor change application to the CP facility of BLANK0000027948 to change the transmitter site and to increase the service of WOIL-CD on its authorized channel 23. Attached is a map showing the 51 dBu F50,90 contour.

The output from the FCC's current "TVStudy" software is attached (as edited to remove superfluous scenarios) that demonstrates full compliance with the FCC's protection requirements.

ENVIRONMENTAL STATEMENT

This proposal does not involve a site location specified under Section 1.1307(a) through (a)(8) of the FCC Rules.

The digital Class A TV station of the Applicant at this location produces an ERP that is less than or equal to 10 kilowatts. Assuming: (a) a maximum ERP of 10 kilowatts; (b) a relative field of less than 0.2 in the critical downward angles; and (c) a distance of at least 45 meters from the lowest antenna element to 2 meters above ground level, the maximum power density is calculated as follows:

$$S = 33.4 (F)(F)(ERP) / [(R)(R)]$$

Where, S equals power density in uW/cm²
 F equals the relative field factor
 ERP equals the effective radiate power in watts
 R equals the distance in meters

$$= 33.4 (0.2)(0.2)(10,000) / [(45)(45)]$$

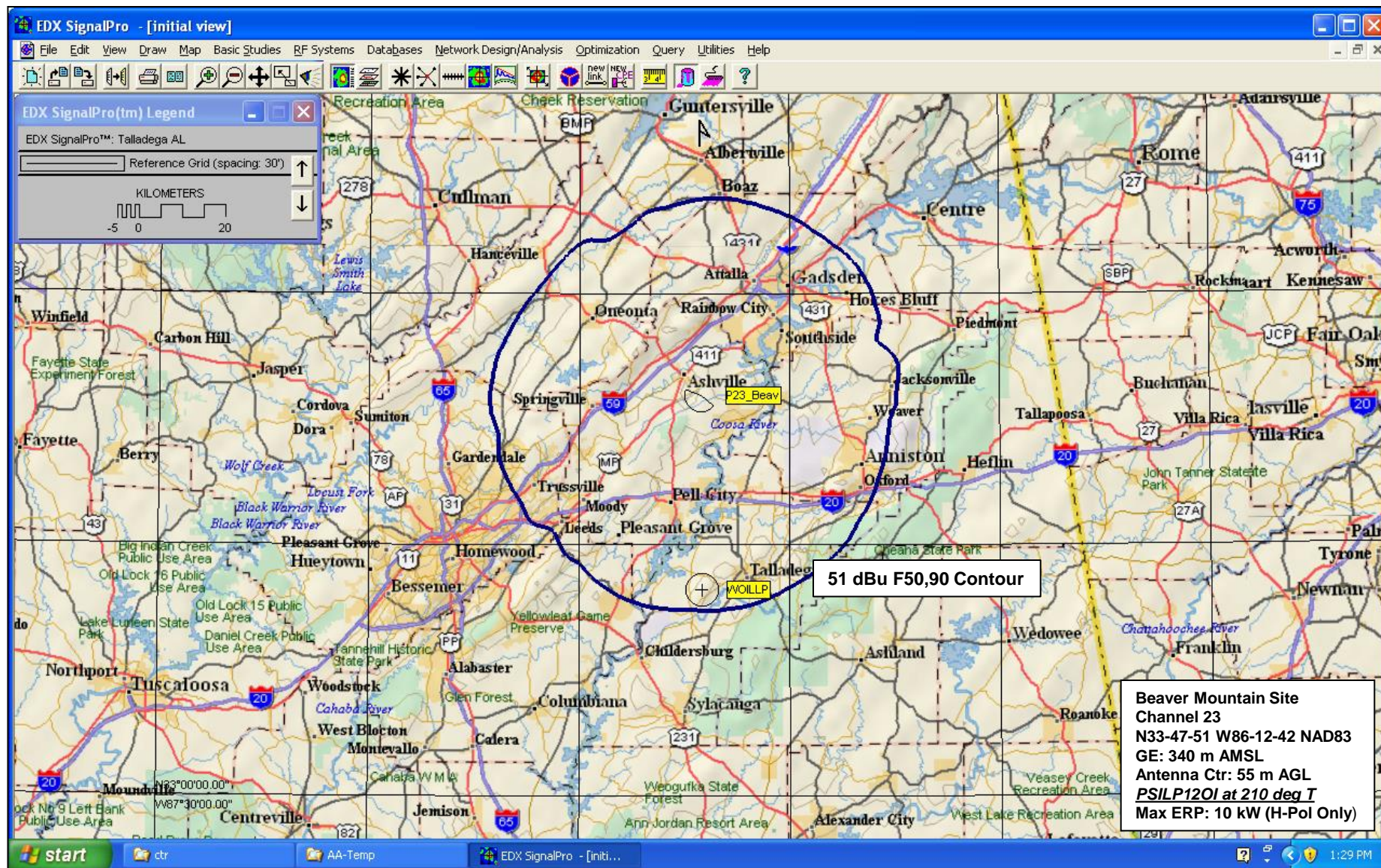
$$= 6.6 \text{ uW/cm}^2$$

6.6 uW/cm² represents less than 5% of the uncontrolled power density limit

(315.3 $\mu\text{W}/\text{cm}^2$ for UHF; 200 $\mu\text{W}/\text{cm}^2$ for VHF). The electromagnetic radiation from this proposed operation will not produce a value in excess of the radiation standard. The electromagnetic radiation from the proposed operation will not combine with other facilities on or near the structure to produce a significant change in value.

If this is a structure that may support various other operations, the applicant will cooperate with the other operators in establishing a plan for work done on the structure in close proximity to the existing antenna.

FIGURE 1: WOIL-CD 23 Digital Coverage Contour



tvstudy v2.2.3 (DAezul)
Database: localhost, Study: BEAV23D10KWDIRF, Model: Longley-Rice
Start: 2017.10.31 13:28:12

Study created: 2017.10.31 13:21:39

Study build station data: LMS TV 2017-10-26 (3)

Proposal: WOIL-CD D23 DC APP TALLADEGA, AL
Facility ID: 31649
Station data: User record
Record ID: 151
Country: U.S.

Build options:
Protect LPTV records from Class A

Stations affected by proposal:

Call	Chan	Svc	Status	City, State	File Number	Distance
WCOV-TV	D22	DT	CP	MONTGOMERY, AL	BLANK0000025355	202.7 km
WCOV-TV	D22	DT	BL	MONTGOMERY, AL	DTVBL73642	202.7
WVUA-CD	D23	DC	LIC	TUSCALOOSA/NORTHPORT, AL	BLANK0000001646	140.1
WFLI-TV	D23	DT	CP	CLEVELAND, TN	BLANK0000027931	178.8
WFLI-TV	D23	DT	BL	CLEVELAND, TN	DTVBL72060	178.8
WBXA-CD	D24	DC	LIC	BIRMINGHAM, AL	BLANK0000001638	65.1
WHIQ	D24	DT	LIC	HUNTSVILLE, AL	BLANK0000004828	108.4

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D23
Mask: Full Service
Latitude: 33 47 51.00 N (NAD83)
Longitude: 86 12 42.00 W

Height AMSL: 395.0 m
HAAT: 0.0 m
Peak ERP: 10.0 kW
Antenna: PSI-PSILP8OI (ID 20499) 210.0 deg
Elev Pattn: Generic
Elec Tilt: 1.00

49.7 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	4.10 kW	211.1 m	45.4 km
45.0	4.42	224.8	46.5
90.0	3.60	204.3	44.3
135.0	5.40	221.6	47.4
180.0	9.03	212.6	49.5
225.0	9.80	144.1	45.7
270.0	6.72	205.2	47.6
315.0	3.84	195.0	44.1

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 202 m

**Proposal service area extends beyond baseline plus 1.0%
Proposal service area population is more than 95.0% of baseline

Distance to Canadian border: 928.9 km

Distance to Mexican border: 1348.2 km

Conditions at FCC monitoring station: Powder Springs GA
Bearing: 86.6 degrees Distance: 137.6 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 298.1 degrees Distance: 1824.3 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 BLANK0000025355 CP, scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WCOV-TV	D22	DT	CP	MONTGOMERY, AL	BLANK0000025355	
Undesireds:	WOIL-CD	D23	DC	BL	TALLADEGA, AL	DTVBL31649	159.8 km
	WOIL-CD	D23	DC	APP	TALLADEGA, AL		202.7
	WDHN	D21	DT	LIC	DOTHAN, AL	BLCDT20090303ACR	114.6
	WTTO	D21	DT	CP	HOMEWOOD, AL	BLANK0000029999	178.3
	WFIQ	D22	DT	LIC	FLORENCE, AL	BLEDT20060718ACG	326.2
	WDES-CD	D22	DC	CP	DESTIN, FL	BLANK0000027917	178.4
	WTWC-TV	D22	DT	CP	TALLAHASSEE, FL	BLANK0000025125	252.8
	WHSB-TV	D22	DT	CP	MONROE, GA	BLANK0000028032	258.9
	WHLT	D22	DT	APP	HATTIESBURG, MS	BLANK0000002705	297.6

	Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX
	34588.6	868,107	34275.8	864,475	33130.0	845,190	33130.0	845,190	0.00 0.00

Undesired		Total IX	Unique IX, before	Unique IX, after
WOIL-CD D23 DC BL	3.0	0	0.0	0
WOIL-CD D23 DC APP	0.0	0	0.0	0
WDHN D21 DT LIC	339.0	8,434	185.7	4,406
WTTO D21 DT CP	20.0	193	10.0	138
WFIQ D22 DT LIC	75.1	440	26.0	118
WDES-CD D22 DC CP	1.0	0	0.0	0
WTWC-TV D22 DT CP	438.4	11,018	210.6	4,052
WHSB-TV D22 DT CP	168.7	4,465	85.2	1,400
WHLT D22 DT APP	387.6	2,076	350.4	1,883

Interference to DTVBL73642 BL, scenario 1

Desired:	Call WCOV-TV	Chan D22	Svc DT	Status BL	City, State MONTGOMERY, AL	File Number DTVBL73642	Distance
Undesireds:	WOIL-CD	D23	DC	BL	TALLADEGA, AL	DTVBL31649	159.8 km
	WOIL-CD	D23	DC	APP	TALLADEGA, AL		202.7
	WDHN	D21	DT	LIC	DOTHAN, AL	BLCDDT20090303ACR	114.6
	WTTO	D21	DT	CP	HOMEWOOD, AL	BLANK0000029999	178.3
	WFIQ	D22	DT	LIC	FLORENCE, AL	BLEDDT20060718ACG	326.2
	WDES-CD	D22	DC	CP	DESTIN, FL	BLANK0000027917	178.4
	WPFN-CD	D22	DC	LIC	PANAMA CITY, FL	BLDDTA20141222AAC	202.6
	WTWC-TV	D22	DT	CP	TALLAHASSEE, FL	BLANK0000025125	252.8
	WHSG-TV	D22	DT	CP	MONROE, GA	BLANK0000028032	258.9
	WHLT	D22	DT	APP	HATTIESBURG, MS	BLANK0000002705	297.6

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
34300.5	862,966	33997.8	859,666	32845.0
		840,856	840,856	0.00
				0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WOIL-CD D23 DC BL	3.0	0	0
WOIL-CD D23 DC APP	0.0	0	0.0
WDHN D21 DT LIC	324.8	7,828	173.5
WTTO D21 DT CP	20.0	219	13.0
WFIQ D22 DT LIC	78.1	700	31.0
WPFN-CD D22 DC LIC	1.0	0	0.0
WTWC-TV D22 DT CP	443.5	11,221	218.7
WHSG-TV D22 DT CP	172.7	3,695	90.2
WHLT D22 DT APP	393.6	1,992	350.4

Interference to BLANK0000001646 LIC, scenario 1

Desired:	Call WVUA-CD	Chan D23	Svc DC	Status LIC	City, State TUSCALOOSA/NORTHPORT, AL	File Number BLANK0000001646	Distance
Undesireds:	WOIL-CD	D23	DC	BL	TALLADEGA, AL	DTVBL31649	124.7 km
	WOIL-CD	D23	DC	APP	TALLADEGA, AL		140.1
	WDPM-DT	D23	DT	LIC	MOBILE, AL	BLCDDT20090420AAD	283.4

WKTb-CD	D23	DC	CP	NORCROSS, GA	BLANK0000025118	318.3
WFLI-TV	D23	DT	CP	CLEVELAND, TN	BLANK0000027931	306.9
WJDE-LD	D23	DC	CP	NASHVILLE, TN	BLANK0000028005	348.8
W39CA-D	D24	DC	CP	FULTON, MS	BLANK0000028855	121.3

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX
7879.3	243,203	7669.3	240,720	7645.4	240,239	7658.3	240,680	-0.17 -0.18

Undesired		Total IX		Unique IX, before		Unique IX, after
WOIL-CD D23 DC BL	17.9	481	17.9	481		
WOIL-CD D23 DC APP	5.0	40			5.0	40
WDPM-DT D23 DT LIC	6.0	0	6.0	0	6.0	0

Interference to BLANK0000027931 CP, scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WFLI-TV	D23	DT	CP	CLEVELAND, TN	BLANK0000027931	
Undesireds:	WOIL-CD	D23	DC	BL	TALLADEGA, AL	DTVBL31649	217.3 km
	WOIL-CD	D23	DC	APP	TALLADEGA, AL		178.8
	WHSg-TV	D22	DT	CP	MONROE, GA	BLANK0000028032	183.3
	WCTE	D22	DT	LIC	COOKEVILLE, TN	BLEDT20110413ACS	107.3
	WKTb-CD	D23	DC	CP	NORCROSS, GA	BLANK0000025118	174.3
	WPGA-TV	D23	DT	CP	PERRY, GA	BLANK0000028377	316.0
	WKZT-TV	D23	DT	CP	ELIZABETHTOWN, KY	BLANK0000025335	279.3
	WKPD	D23	DT	CP	PADUCAH, KY	BLANK0000025329	369.6
	WKPI-TV	D23	DT	CP	PIKEVILLE, KY	BLANK0000025330	337.8
	WBTv	D23	DT	LIC	CHARLOTTE, NC	BLCDT19991025AEB	371.6
	WJDE-LD	D23	DC	CP	NASHVILLE, TN	BLANK0000028005	175.3
	WAPW-CD	D23	DC	CP	ABINGDON, ETC., VA	BLANK0000026135	384.7
	WHIQ	D24	DT	LIC	HUNTSVILLE, AL	BLANK0000004828	125.5

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX
25434.9	1,280,082	21825.4	1,147,724	21496.9	1,137,948	21304.9	1,132,457	0.89 0.48

Undesired		Total IX		Unique IX, before		Unique IX, after
WOIL-CD D23 DC BL	93.5	1,494	81.5	1,374		

WOIL-CD D23 DC APP	290.6	7,273			273.5	6,865
WHSB-TV D22 DT CP	3.0	66	1.0	64	1.0	64
WCTE D22 DT LIC	98.5	2,474	90.5	1,936	90.5	1,936
WKTU-CD D23 DC CP	120.5	5,726	107.4	5,635	101.4	5,326
WKZT-TV D23 DT CP	3.0	0	1.0	0	1.0	0
WBTU D23 DT LIC	1.0	0	1.0	0	1.0	0
WJDE-LD D23 DC CP	23.9	589	14.9	51	14.9	51
WHIQ D24 DT LIC	11.1	87	7.0	56	8.0	77

Interference to DTVBL72060 BL, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance	
	WFLI-TV	D23	DT	BL	CLEVELAND, TN	DTVBL72060		
Undesireds:	WOIL-CD	D23	DC	BL	TALLADEGA, AL	DTVBL31649	217.3 km	
	WOIL-CD	D23	DC	APP	TALLADEGA, AL		178.8	
	WHSB-TV	D22	DT	CP	MONROE, GA	BLANK0000028032	183.2	
	WCTE	D22	DT	LIC	COOKEVILLE, TN	BLD20110413ACS	107.4	
	WKTU-CD	D23	DC	CP	NORCROSS, GA	BLANK0000025118	174.2	
	WPGA-TV	D23	DT	CP	PERRY, GA	BLANK0000028377	315.9	
	WKZT-TV	D23	DT	CP	ELIZABETHTOWN, KY	BLANK0000025335	279.4	
	WKPD	D23	DT	CP	PADUCAH, KY	BLANK0000025329	369.7	
	WKPI-TV	D23	DT	CP	PIKEVILLE, KY	BLANK0000025330	337.8	
	WBTU	D23	DT	LIC	CHARLOTTE, NC	BLCDT19991025AEB	371.5	
	WJDE-LD	D23	DC	CP	NASHVILLE, TN	BLANK0000028005	175.4	
	WAPW-CD	D23	DC	CP	ABINGDON, ETC., VA	BLANK0000026135	384.6	
	WHIQ	D24	DT	LIC	HUNTSVILLE, AL	BLANK0000004828	125.5	
Service area		Terrain-limited		IX-free, before		IX-free, after		
25262.4	1,275,859	21742.9	1,146,062	21425.5	1,137,400	21235.5	1,132,480	
						Percent New IX		
						0.89		
						0.43		
Undesired			Total IX		Unique IX, before		Unique IX, after	
WOIL-CD D23 DC BL	83.5	2,172	69.4	1,270				
WOIL-CD D23 DC APP	278.6	6,692			259.5	6,190		
WHSB-TV D22 DT CP	2.0	2	0.0	0	0.0	0		
WCTE D22 DT LIC	87.4	1,220	78.4	1,147	78.4	1,147		
WKTU-CD D23 DC CP	128.5	5,724	114.5	4,851	108.4	5,230		

WKZT-TV D23 DT CP	2.0	0	1.0	0	1.0	0
WBTW D23 DT LIC	4.0	134	3.0	134	3.0	134
WJDE-LD D23 DC CP	25.9	249	17.9	176	17.9	176
WHIQ D24 DT LIC	11.1	138	7.0	107	8.0	128

Interference to BLANK0000001638 LIC, scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WBXA-CD	D24	DC	LIC	BIRMINGHAM, AL	BLANK0000001638	
Undesireds:	WOIL-CD	D23	DC	BL	TALLADEGA, AL	DTVBL31649	56.2 km
	WOIL-CD	D23	DC	APP	TALLADEGA, AL		65.1
	WVUA-CD	D23	DC	LIC	TUSCALOOSA/NORTHPORT, AL	BLANK0000001646	75.0
	WHIQ	D24	DT	LIC	HUNTSVILLE, AL	BLANK0000004828	141.5
	WSRE	D24	DT	CP	PENSACOLA, FL	BLANK00000027900	328.1
	WXTX	D24	DT	CP	COLUMBUS, GA	BLANK00000024780	212.8
	W39CA-D	D24	DC	CP	FULTON, MS	BLANK00000028855	148.6
	WMDN	D24	DT	LIC	MERIDIAN, MS	BLCDT20090304ADW	217.9
	Service area	Terrain-limited		IX-free, before		IX-free, after	
	4012.7	650,513	3330.9	618,262	2850.4	578,814	2950.8 583,371
							Percent New IX
							-3.52 -0.79

Undesired	Total IX	Unique IX, before	Unique IX, after
WOIL-CD D23 DC BL	164.9	9,133	100.3 4,557
WOIL-CD D23 DC APP	0.0	0	0.0 0
WVUA-CD D23 DC LIC	3.0	140	0.0 0
WHIQ D24 DT LIC	337.4	30,555	242.0 22,658
WXTX D24 DT CP	11.9	372	2.0 118
WMDN D24 DT LIC	95.4	10,287	27.8 3,919
			35.7 4,124

Interference to proposal, scenario 1
3.43% interference

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WOIL-CD	D23	DC	APP	TALLADEGA, AL		

Undesireds:	WVUA-CD	D23	DC	LIC	TUSCALOOSA/NORTHPORT, AL	BLANK0000001646	140.1 km
	WKTB-CD	D23	DC	CP	NORCROSS, GA	BLANK00000025118	186.0
	WPGA-TV	D23	DT	CP	PERRY, GA	BLANK00000028377	272.7
	WFLI-TV	D23	DT	CP	CLEVELAND, TN	BLANK00000027931	178.8
	WJDE-LD	D23	DC	CP	NASHVILLE, TN	BLANK00000028005	275.4
	WHIQ	D24	DT	LIC	HUNTSVILLE, AL	BLANK0000004828	108.4

Service area		Terrain-limited		IX-free	Percent IX
6752.8	461,720	5511.0	366,097	5376.2	353,538 2.45 3.43

Undesired		Total IX		Unique IX	Prcnt Unique IX
WVUA-CD D23 DC LIC	27.7	4,260	17.8	3,441	0.32 0.94
WFLI-TV D23 DT CP	117.0	9,118	100.2	7,548	1.82 2.06
WHIQ D24 DT LIC	6.9	751	0.0	0	0.00 0.00

Interference to proposal, scenario 2
3.55% interference

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WOIL-CD	D23	DC	APP	TALLADEGA, AL		
Undesireds:	WVUA-CD	D23	DC	LIC	TUSCALOOSA/NORTHPORT, AL	BLANK0000001646	140.1 km
	WKTB-CD	D23	DC	CP	NORCROSS, GA	BLANK00000025118	186.0
	WPGA-TV	D23	DT	CP	PERRY, GA	BLANK00000028377	272.7
	WFLI-TV	D23	DT	BL	CLEVELAND, TN	DTVBL72060	178.8
	WJDE-LD	D23	DC	CP	NASHVILLE, TN	BLANK00000028005	275.4
	WHIQ	D24	DT	LIC	HUNTSVILLE, AL	BLANK0000004828	108.4

Service area		Terrain-limited		IX-free	Percent IX
6752.8	461,720	5511.0	366,097	5374.2	353,093 2.48 3.55

Undesired		Total IX		Unique IX	Prcnt Unique IX
WVUA-CD D23 DC LIC	27.7	4,260	16.8	3,441	0.31 0.94
WFLI-TV D23 DT BL	120.0	9,563	102.2	7,993	1.85 2.18
WHIQ D24 DT LIC	6.9	751	0.0	0	0.00 0.00