

73.525 Compliance

Introduction

There are several considerations outlined in 47 C.F.R. 73.525 for TV Channel 6 protection. Outlined below are the various factors as they apply to the proposed operation and WABW.

Distance between proposed operation and WABW

47 C.F.R. 73.525(a)(1) requires a minimum separation of 193 km between a channel 213 operation and a TV Channel 6 station. The distance between the proposed station and WABW is 70.54 km. Since the distance is less than 193 km then WABW is an affected station and the analysis below is required.

Population Limitation

When a proposed non-commercial station is not co-located with the channel 6 station in question, the applicant is required to show that the interference area (as predicted by the procedures outlined in 47 C.F.R. 73.525(e)(1)) contains no more than 3,000 persons.

Per 47 C.F.R. 73.525(e)(4), if an applicant chooses to use mixed polarity, the permissible ERP is determined by the formula: $[H + (V/A)]$ is not greater than P
Where:

H = the horizontally polarized ERP in kilowatts for mixed polarity

V = the vertically polarized ERP in kilowatts for mixed polarity

A = 40 (predicted interference area lies entirely outside the limits of a city of 50,000 persons or more), or 10 (if it does not).

P = the maximum permitted horizontally polarized-only power in kilowatts.

Since the predicted interference area lies entirely outside the limits of a city of 50,000 persons or more, the value of 40 was used for A, giving the result:

$$[0.001 + (4.5/40)] = .1135 \text{ kilowatts}$$

All population limits were calculated using the maximum permitted horizontally polarized-only power of .1135 kilowatts. The actual population figures are contained in Exhibit 21-B, and a map of the interference area is shown in Exhibit 21-A.

Discussion

Population in the predicted interference area was determined using the centroid method and the 2010 census. The predicted interference contour (of the theoretical horizontal component of .1135 kilowatts) is contained within the WABW channel 6 grade B (47 dBu F(50,50)) contour (see Exhibit 21-A).

The predicted interference contour is determined from 47 C.F.R. 73.599 for channel 213 to range from 68.7dBu to 69.0dBu (see Exhibit 21-C for a tabulation of the WABW protected contour values and the corresponding channel 213 interfering contours). An additional 6 dB adjustment has been made for receiving antenna directivity (per 73.525(e)(1)(iii)) for the area outside the WABW grade A contour, but within the grade B contour. Since the azimuth between the proposed facility and WABW is 266.8°, the standard values would be used between 16.8° and 156.8°, clockwise. The adjusted values are used between 156.8° and 16.8°, clockwise.

Exhibit 21-A shows the WABW F(50-50) protected contours, the proposed facility's F(50-10) interfering contours (according to the tabulations in Exhibit 21-C) and the proposed operation's interpolated interfering contour determined from connecting the intersections of the WABW protected contours and the corresponding interfering contours of the proposed facility (see 47 C.F.R 73.525(e)(1)(ii)). Additionally shown is a population scattergraph of the area of proposed operation. A population report of the area contained within the interpolated interfering contour is included in Exhibit 21-B. The total population contained within the interfering contour is 3,806 persons. EMF will adhere to the requirements outlined in 47 C.F.R. 73.525(c)(2) regarding the installation of filters for each of the 806 persons above the limit of 3,000 persons.

Conclusion

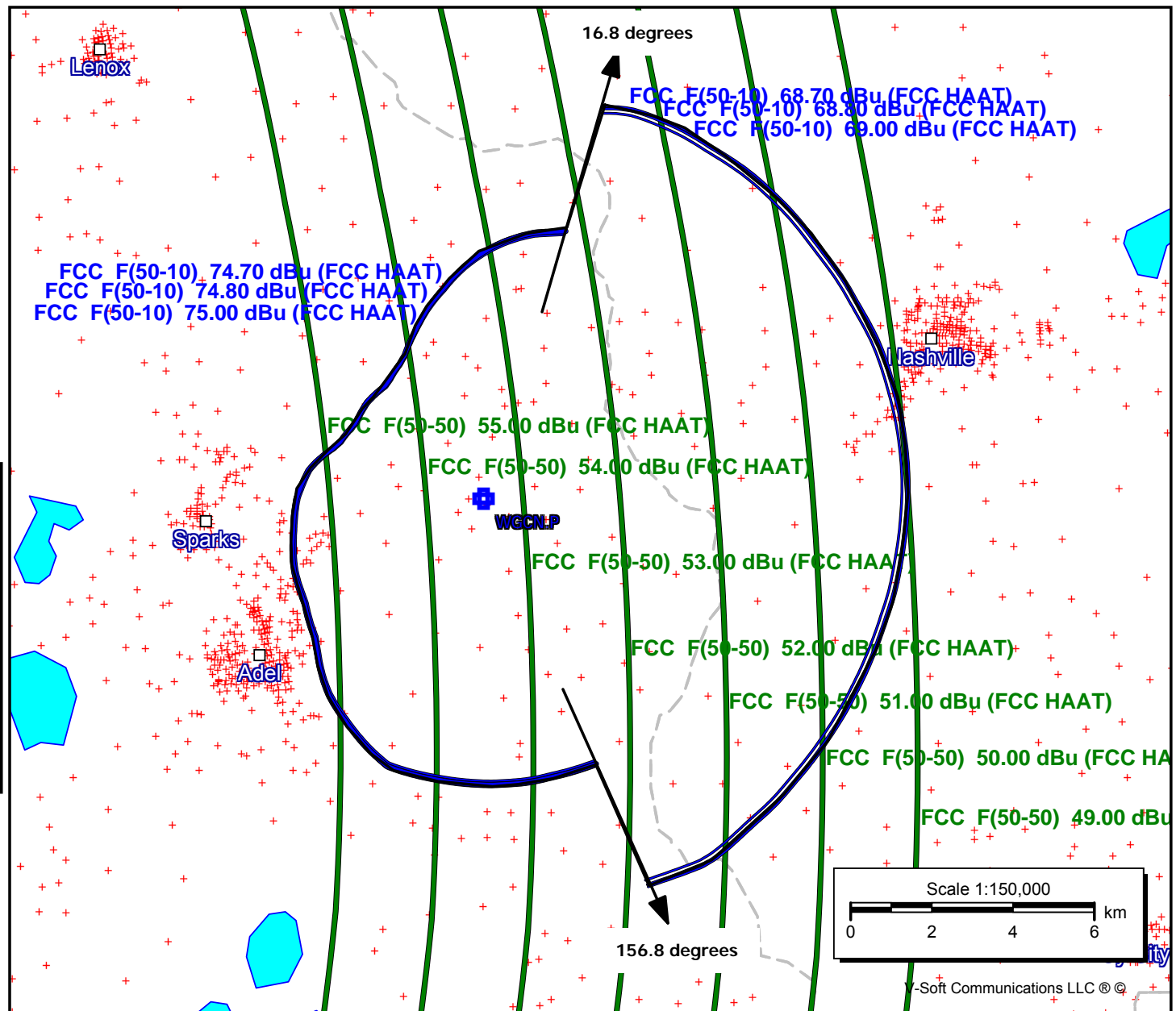
For the reasons outlined above, the proposed operation fully complies with the provisions of 47 C.F.R. 73.525.

Exhibit 21A

WABW-TV-D
BLEDT20090612ACC
Latitude: 31-08-05 N
Longitude: 084-06-16 W
ERP: 10.50 kW
Channel: 6
Frequency: 85.0 MHz
AMSL Height: 462.4 m
Horiz. Pattern: Omni
Vert. Pattern: Yes
Elec Tilt: 0.5
Prop Model: None

WGCN.P

Latitude: 31-10-18 N
Longitude: 083-21-57 W
ERP: 0.1135 kW
Channel: 213
Frequency: 90.5 MHz
AMSL Height: 324.2 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None



Channel 6 vs Channel 213

Channel 6 Contour	Value from 73.599	Channel 213 Contour	Adjusted 6 dB
47 (grade B)	22.5	69.5	75.5
48	21.3	69.3	75.3
49	20	69	75
50	18.8	68.8	74.8
51	17.8	68.8	74.8
52	16.7	68.7	74.7
53	15.7	68.7	74.7
54	14.7	68.7	74.7
55	13.7	68.7	74.7
56	12.8	68.8	74.8
57	11.8	68.8	74.8
58	10.9	68.9	74.9
59	10	69	75
60	9.3	69.3	75.3
61	8.5	69.5	75.5
62	7.8	69.8	75.8
63	7.2	70.2	76.2
64	6.7	70.7	76.7
65	6.1	71.1	77.1
66	5.7	71.7	77.7
67	5.2	72.2	78.2

Channel 6 Contour	Value from 73.599	Channel 213 Contour	Adjusted 6 dB
68 (grade A)	4.8	72.8	78.8
69	4.5	73.5	79.5
70	4.2	74.2	80.2
71	3.9	74.9	80.9
72	3.6	75.6	81.6
73	3.4	76.4	82.4
74	3.2	77.2	83.2
75	3	78	84
76	2.8	78.8	84.8
77	2.6	79.6	85.6
78	2.4	80.4	86.4
79	2.2	81.2	87.2
80	2	82	88
81	1.8	82.8	88.8
82	1.7	83.7	89.7
83	1.5	84.5	90.5
84	1.3	85.3	91.3
85	1.2	86.2	92.2
86	1	87	93
87	0.9	87.9	93.9
88	0.7	88.7	94.7
89	0.6	89.6	95.6
90	0.5	90.5	96.5

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Exhibit 21C
Nashville, GA

Population Report

Polygon Population Report

Population Database: 2010 US Census (PL)

Total Population: 3,806

Housing Units: 1,572

Polygon Area: 190.27 sq. km
