

# T Z SAWYER TECHNICAL CONSULTANTS

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## DIGITAL LPTV FACILITY MINOR CHANGE APPLICATION WXVK-LD TELEVISION CHANNEL 34

### APPLICATION ENGINEERING STATEMENT

FCC FACILITY ID: 58773  
COLUMBUS, GA

### ENGINEERING NARRATIVE

#### Minor Change Application

WXVK-LD, seeks to MODIFY its CONSTRUCTION PERMIT to specify a new antenna type, antenna height, effective radiated power (ERP) and site location. All of the changes proposed herein are classified as “minor changes” in accordance with the Commission’s application processing rules.

The maximum effective radiated power (ERP) will be 15.0 kilowatts using horizontal polarization only.

The proposed antenna is a PSI PSILP120I, a directional UHF slot antenna, employing 0-degrees of electrical beam tilt. A full-service filter mask is to be employed. The facility requested is not contingent upon a grant or channel move of any other known facility at the time of filing.

A graphical plot and tabulation of the relative field values from the proposed directional antenna have been provided in the application.

#### Modification Compliance:

Pursuant to 47 CFR §74.787(b) the instant application is considered a “minor” change because;

- There is no change in transmitting antenna location such that the protected service contour resulting from the change does not overlap some portion of the protected service contour of the authorized facilities of the existing station as illustrated in Figure 1, Present & Proposed Service Contours.
- There is no change in transmitting antenna location greater than 30 miles (48 km) from the reference coordinates of the existing station’s licensed location, as noted below:

CALCULATED DISTANCE BETWEEN EXISTING LICENSED AND PROPOSED SITES

SITE	LAT (NAD83)	LON (NAD83)	(KM)	(MI)
CURRENT/EXISTING LIC	32-15-23.9 N	85-00-08.6 W	42.47	26.39
PROPOSED (LIC MOD)	32-35-55.4 N	85-12-19.7 W		

FCC Tower Registration (ASR) - FAA Notification

The proposed site is the existing communications tower site. This is a leased tower site in which an FCC tower/structure antenna structure registration (ASR#1219605) has been issued to the tower owner.

The overall height of the communications tower is 106.4 meters (~349') above ground level. No changes in the supporting structure are required that would require notification to the FAA. The antenna is side-mounted upon the structure.

Proposed Antenna Elevations:

The center of radiation of the proposed antenna is 73.0 meters AGL, 269.9 meters AMSL. The ground elevation at the site is 196.9 meters.

Antenna/Structure Elevations	
Site Elevation (m)	196.9
Overall Height of Structure (m)	106.4
Antenna Radiation Center AGL (m)	73.0
Antenna Radiation Center AMSL (m)	269.9

FCC TVStudy Results - FCC TVStudy Cell Size 1.0 km, Profile Spacing 1.0 km:

The results of an interference study of the proposal using the FCC TVStudy program (Version 2.2.5), shows that no prohibitive interference will occur from the proposal. A copy of the summary report has been included in this application.

Nearby AM Radio Station of Concern	None
Land Mobile Stations of Concern	None
International Border Considerations	None
FCC Monitoring Stations of Concern	None
National Radio or Observatory Quiet Zones of Concern	None

Incoming Interference:

The applicant accepts any incoming interference that is predicted to occur to the proposed facility by any authorized or pending, primary or secondary TV station at the time this application is submitted.

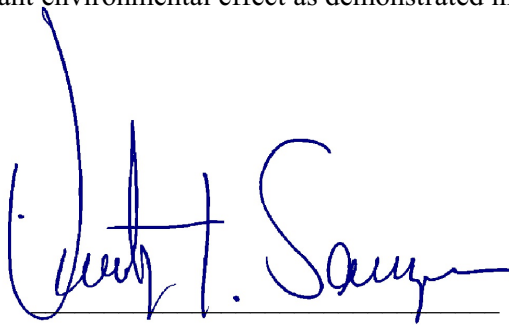
Environmental Evaluation Statement:

The environmental evaluation statement concerning this proposal has been included in this application and can be found as a separate file upload within the application. A grant of this proposal would NOT be

an action which would have a significant environmental effect as demonstrated in the environmental evaluation statement.

Respectfully submitted,

August 30, 2022

A handwritten signature in blue ink, appearing to read "Timothy Z. Sawyer". The signature is fluid and cursive, with a large initial "T" and "S".

Timothy Z. Sawyer, Consulting Engineer

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**WXVK-LD CP MOD**

FCC LMS File: THIS APPLICATION  
FCC Facility ID: 58773  
NAD 83 Latitude: 32-35-55.40 N  
NAD 83 Longitude: 085-12-19.70 W  
ERP: 15.00 kW  
Channel: 34  
Frequency: 593.0 MHz  
Ant. RCAMSL Height: 269.9 m  
Horiz. Pattern: Directional

**WXVK-LD LICENSED**

FCC LMS File: 0000115071  
FCC Facility ID: 58773  
NAD 83 Latitude: 32-15-23.90 N  
NAD 83 Longitude: 085-00-08.60 W  
ERP: 11.60 kW  
Channel: 34  
Frequency: 593.0 MHz  
Ant. RCAMSL Height: 134.1 m  
Horiz. Pattern: Directional

**PRESENT AND PROPOSED SERVICE CONTOURS  
FCC 51 DBU F(50,90)**

WXVK-LD, CHANNEL 34  
COLUMBUS, GA

FIGURE 1

MINOR CHANGE COMPLIANCE  
PRESENT AND PROPOSED  
CONTOUR OVERLAP SHOWN  
(SHADED AREA)

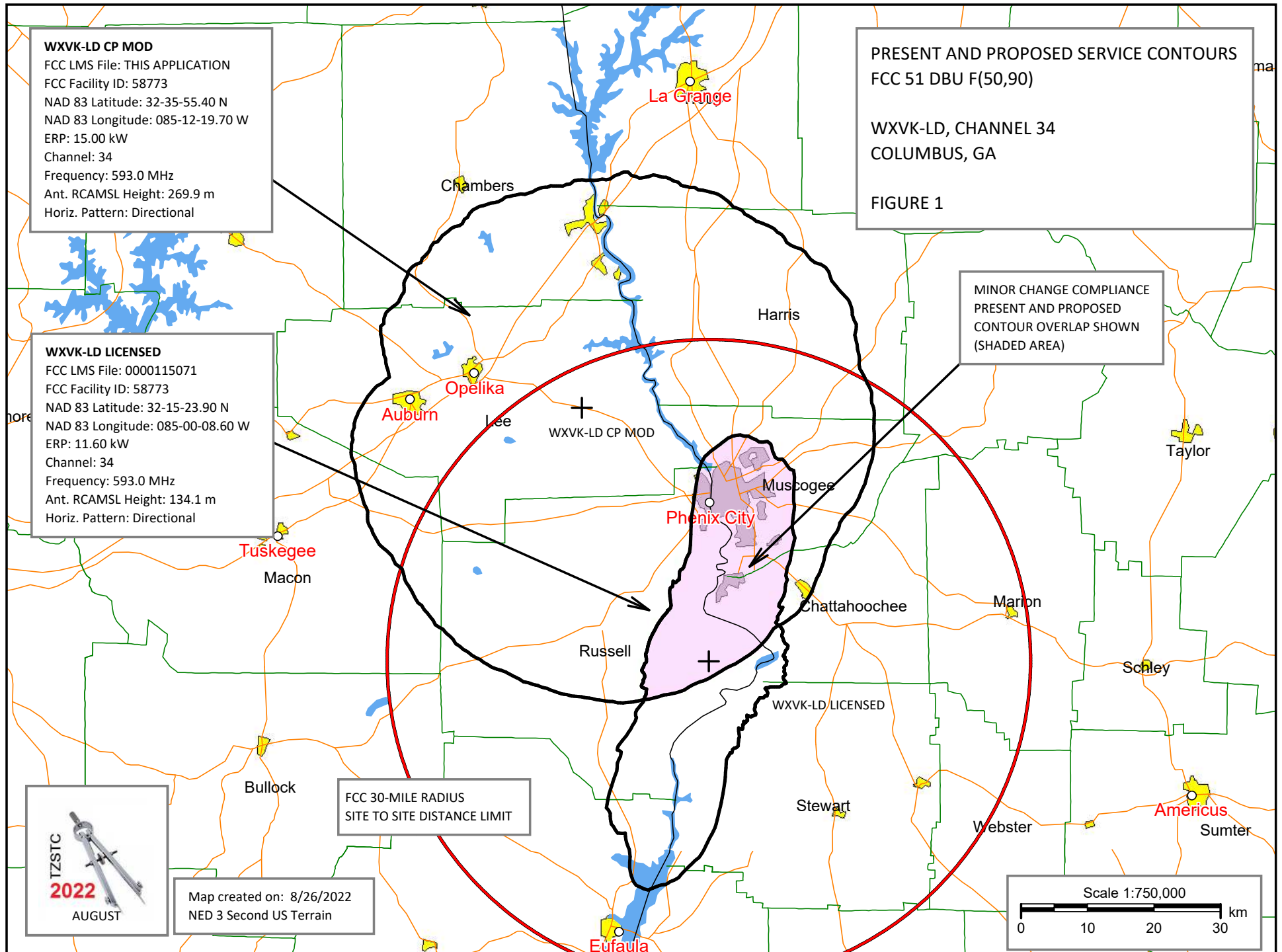
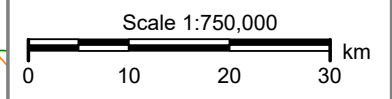
FCC 30-MILE RADIUS  
SITE TO SITE DISTANCE LIMIT

TZSTC

2022

AUGUST

Map created on: 8/26/2022  
NED 3 Second US Terrain

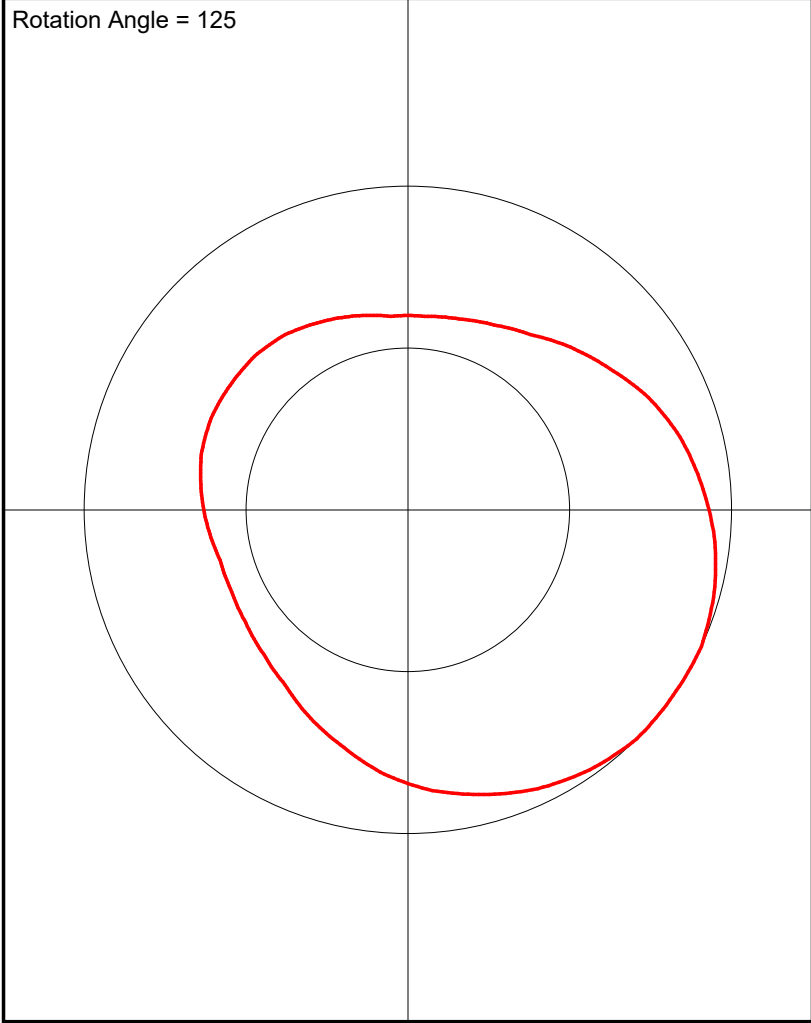


WXVK-LD PSI PSILP12OI DIRECTIONAL ANTENNA

Pre-Rotation Antenna Pattern....

Azimuth (deg)	Relative Field
0.0	1.0
10.0	1.0
20.0	0.98
30.0	0.95
40.0	0.91
50.0	0.87
60.0	0.82
70.0	0.76
80.0	0.71
90.0	0.66
100.0	0.63
110.0	0.61
120.0	0.6
130.0	0.6
140.0	0.62
150.0	0.64
160.0	0.66
170.0	0.67
180.0	0.67
190.0	0.67
200.0	0.66
210.0	0.64
220.0	0.62
230.0	0.6
240.0	0.6
250.0	0.61
260.0	0.63
270.0	0.66
280.0	0.71
290.0	0.76
300.0	0.82
310.0	0.87
320.0	0.91
330.0	0.95
340.0	0.98
350.0	1.0

Rotation Angle = 125



PATTERN PLOT ABOVE IS WITH ANTENNA ROTATION  
HORIZONTAL RELATIVE FIELD PATTERN

WXVK-LD MOD OF CP FCC TVSTUDY SUMMARY REPORT  
 DEFAULT CELL SIZE 1.0 KM  
 DEFAULT PROFILE SPACING 1.0 KM

Proposal: WXVK-LD D34 LD APP Columbus, GA  
 File number: WXVK-LD CH34 CPMOD  
 Facility ID: 58773  
 Station data: User record  
 Record ID: 632  
 Country: U.S.

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

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WPXH-TV	D33	DT	LIC	HOOVER, AL	BLANK0000105366	178.6 km
No	WFRZ-LD	D33	LD	LIC	MONTGOMERY, AL	BLANK0000081666	95.4
No	WDFX-TV	D33	DT	CP	OZARK, AL	BLANK0000035653	159.3
No	WDFX-TV	D33	DT	LIC	OZARK, AL	BLCDT20050915APH	159.3
No	WPCT	D33	DT	LIC	PANAMA CITY BEACH, FL	BLANK0000062892	274.1
No	W33EU-D	D33	LD	LIC	ATHENS, GA	BLANK0000197450	227.3
No	WIRE-CD	D33	DC	LIC	ATLANTA, GA	BLANK0000130086	149.7
No	WTSG-LD	D33	LD	CP	CHULA, GA	BLANK0000190120	189.5
Yes	WCAC-LD	D33	LD	LIC	LAGRANGE, GA	BLDTL20130411AAA	52.8
No	WGNM	D33	DT	LIC	MACON, GA	BLANK0000113679	155.1
No	W34FB-D	D34	LD	LIC	HAMILTON, AL	BLANK0000118546	301.1
No	W34EY-D	D34	DC	LIC	HUNTSVILLE, AL	BLANK0000069366	267.5
Yes	WBIH	D34	DT	LIC	SELMA, AL	BLANK0000110807	153.5
No	W34FW-D	D34	LD	CP	JASPER, FL	BLANK0000197259	370.5
No	W34FW-D	D34	LD	LIC	JASPER, FL	BLANK0000158188	324.8
No	W34FF-D	D34-	LD	LIC	PANAMA CITY, FL	BLANK0000179306	256.5
No	WHBR	D34	DT	LIC	PENSACOLA, FL	BLCDT20060627AAV	319.4
Yes	WATC-DT	D34	LD	LIC	ATLANTA, GA	BLANK0000107129	177.4
No	W34FO-D	D34	LD	LIC	AUGUSTA, GA	BLANK0000179561	255.1
Yes	WSST-TV	D34	DT	LIC	CORDELE, GA	BLANK0000064103	153.2
No	W34FX-D	D34	LD	LIC	MONTROSE, GA	BLANK0000194505	237.1
No	W34FT-D	D34	LD	CP	WASHINGTON, GA	BNPDTL20090825BXG	259.2
No	WRBJ-TV	D34	DT	LIC	MAGEE, MS	BLCDT20110511AGB	411.1
No	W34EP-D	D34	LD	LIC	SAPPHIRE VALLEY,ETC., NC	BLANK0000119380	367.2
No	WNSC-TV	D34	DT	LIC	ROCK HILL, SC	BLANK0000105822	460.3
No	WVLT-TV	D34	DT	LIC	KNOXVILLE, TN	BLANK0000081956	394.6
No	DWKNI-LP	D35-	LD	APP	ANDALUSIA, AL	BLANK0000054917	180.0
No	WOTM-LD	D35	LD	LIC	Birmingham, AL	BLANK0000184910	162.2
No	WEAC-CD	D35	DC	LIC	JACKSONVILLE, AL	BLANK0000112954	129.6
No	WUDC-LD	D35	LD	CP	MONTGOMERY, AL	BNPDTL20091026ABC	95.4
No	K35OX-D	D35	LD	LIC	SELMA, AL	BLANK0000189526	168.3
No	K35OX-D	D35	LD	CP	SELMA, AL	BLANK0000193252	178.7
No	WUVG-DT	D35	LD	LIC	ATHENS, GA	BLANK0000081844	227.3
No	WDTA-LD	D35	LD	LIC	ATLANTA, GA	BLANK0000126643	149.7
Yes	WLTZ	D35	DT	LIC	COLUMBUS, GA	BLCDT20060627ABT	33.8
No	W35BB-D	D35	LD	LIC	DUBLIN, GA	BLDTL20141230AAP	219.0
No	W35DA-D	D35	LD	CP	MACON, GA	BLANK0000197147	146.0
No	W35DA-D	D35	LD	LIC	MACON, GA	BLANK0000198001	146.0

No non-directional AM stations found within 0.8 km  
 No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D34  
 Mask: Full Service  
 Latitude: 32 35 55.40 N (NAD83)  
 Longitude: 85 12 19.70 W  
 Height AMSL: 269.9 m  
 HAAT: 0.0 m  
 Peak ERP: 15.0 kW  
 Antenna: PSI-PSILP120I (ID 20364) 125.0 deg  
 Elev Pattn: Generic

50.7 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	5.40 kW	72.3 m	34.3 km
45.0	7.56	94.6	39.1
90.0	13.0	118.4	44.2

135.0	15.0	115.5	44.7
180.0	10.7	125.2	43.7
225.0	5.95	89.9	37.3
270.0	5.95	63.8	33.5
315.0	6.73	57.6	33.1

Database HAAT does not agree with computed HAAT  
Database HAAT: 0 m    Computed HAAT: 92 m

Distance to Canadian border: 1033.4 km  
Distance to Mexican border: 1352.3 km

Conditions at FCC monitoring station: Powder Springs GA  
Bearing: 17.6 degrees    Distance: 147.4 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 300.8 degrees    Distance: 1971.3 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%

Proposal causes no interference to BLDTL20130411AAA LIC  
Proposal causes 0.09% interference to BLANK0000110807 LIC scenario 1  
Proposal causes 0.01% interference to BLANK0000107129 LIC scenario 1  
Proposal causes 0.02% interference to BLANK0000064103 LIC scenario 1  
Proposal causes 0.07% interference to BLCDT20060627ABT LIC scenario 1

---- Below is IX received by proposal WXVK-LD CH34 CPMOD ----

Proposal receives 7.84% interference from scenario 1

No IX check failures found.

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DIGITAL LPTV FACILITY  
MINOR CHANGE APPLICATION  
WXVK-LD  
TELEVISION CHANNEL 34  
FCC FACILITY ID: 58773  
COLUMBUS, GA

## ENVIRONMENTAL EVALUATION STATEMENT

A grant of this proposal would NOT be an action which would have a significant environmental effect as demonstrated in this environmental evaluation statement. Any changes in equipment, or construction, if necessary will not trigger any event with regards to Section 106 of the National Historical Preservation Act (NHPA).

The proposal does not meet any of the criteria specified in Section 1.1307 of the FCC Rules. More specifically, the proposed facilities are not known to fall within any of the categories enumerated in Sections 1.1307(a)(1)-(7) and will not involve the use of high intensity white lights. Furthermore, operation of the proposed facility will not involve the exposure of workers or the general public to levels of radio frequency electromagnetic fields exceeding guidelines adopted by the Federal Communications Commission. (The current FCC guidelines are based upon criteria contained in the National Council of Radiation Protection and Measurements (NCRP) Report No.86 (1986) and ANSI/IEEE C95.1-1992.)

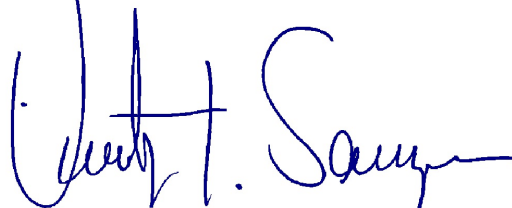
CALCULATED POWER DENSITY AT 2 METERS AGL (0.3 ANTENNA RELATIVE FIELD VALUE) ERP MAX (H)

CR AGL 73.0 M ERP MAX 15.0 KW (H)	MPE ( $\mu\text{W}/\text{CM}^2$ )	CALCULATED VALUE ( $\mu\text{W}/\text{CM}^2$ )	% OF MPE	PASS/FAIL
CONTROLLED AREA	1976.7	8.9447	0.45%	PASS
PUBLIC AREA	395.3		2.26%	PASS

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs are posted at the site. The applicant will coordinate exposure procedures with any co-located facilities and will reduce power or cease operation as necessary to protect persons having access to the site, tower, or antenna from RF electromagnetic field exposure in excess of FCC guidelines.

August 30, 2022

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Timothy Z. Sawyer, Consulting Engineer