

**TECHNICAL STATEMENT
WSJV LICENSE, LLC
WSJV 258 KW ERP-ND 332.6 M HAAT CH. 30
ELKHART, INDIANA**

INTRODUCTION

WSJV License, LLC (the “Applicant”), licensee of digital television station WSJV, Facility ID No. 74007, seeks to modify the post-auction construction permit (CP) for WSJV pursuant to the recent lifting of the freeze on the filing minor modification applications for certain repacked stations.¹ WSJV is a reassigned station that is authorized to operate on Channel 30 post-auction based on the non-expansion parameters that were approved through the 90-day filing window, File No. 0000027461. The Applicant is now proposing to relocate WSJV to a different tower so that it may utilize an existing broadband antenna system, which will significantly help facilitate the station’s buildout. As permitted by the lifting of the freeze, these modifications will increase WSJV’s noise-limited contour in one or more directions beyond its authorized facilities.

PROPOSED MODIFICATION

As stated above, the Applicant seeks to utilize an existing broadband antenna system for WSJV. This proposal entails changing WSJV’s authorized transmitter site so that it may share the broadband antenna that is currently employed by reassigned station WSBT-TV Channel 29 in South Bend, IN. The WSBT-TV antenna is a horizontally polarized nondirectional Dielectric Model TUA-O4-16/64H-1-T-R with 0.5 degrees electrical beam tilt. The radiation center height

¹ *Media Bureau Lifts the Freeze On the Filing Of Minor Modification Applications That Expand The Contour Of Full Power And Class A Television Stations For Certain Repacked Stations, Effective Immediately*, Public Notice, DA 19-284 (rel. July 22, 2019). “This action promotes administrative efficiency and facilitates the post-incentive auction transition because it relieves repacked stations of the need to request a waiver of the 2013 freeze to complete the station’s transition in circumstances where, for instance, an antenna manufacturer is unable to exactly match the station’s authorized antenna pattern, or the authorized height of the antenna on the station’s tower differs slightly from the actual installed height of the antenna.”



of the existing antenna is 309.1 meters above ground level (AGL) or 574.0 meters above mean sea level (AMSL).²

The new parameters proposed for WSJV will increase the station's noise-limited contour in one or more directions beyond its authorized facilities. Figure 1 depicts the protected noise-limited contour of WSJV's current CP facility, which matches the contour associated with the baseline parameters assigned by the FCC for replicating pre-auction service on Channel 28.³ This map further shows the shift in coverage that will result from moving WSJV to the existing broadband antenna of WSBT-TV. As can be observed from the location of these contours, the new parameters proposed for WSJV are designed to maintain service to the present viewers of Channel 28 as defined by the present CP contour.

The contour map attached as Figure 2 demonstrates that the proposed facility will provide a 48 dBu signal over the entire community of Elkhart, IN as required in 47 CFR §73.625.

INTERFERENCE PROTECTION AND ANALYSIS SETTINGS

A copy of the *TVStudy* analysis summary is provided in Figure 3. This summary indicates that no interference check failures were found and therefore the proposal is not predicted to cause new interference beyond the normal tolerance to any other post-auction full-service or Class A TV stations.⁴ This analysis was performed using the following permissible OET-69 settings:

Study cell size:	1.0 kilometer
Profile point spacing:	0.5 kilometer

² Antenna Structure Registration No. 1030677 specifies a site elevation of 264.9 meters AMSL.

³ WSJV's pre-auction facility transmits on Channel 28 in accordance with the parameters specified in FCC File No. BLCDT-20100115AAE. The baseline parameters for post-auction replication of Channel 28 on Channel 30 were assigned in the *Closing and Channel Reassignment Public Notice* ("CCRPN"), 32 FCC Rcd 2786 (2017). Those reassignment parameters are referenced in the LMS database as DTVBL74007 and match the parameters authorized in FCC File No. 0000027461. The protected noise-limited contour for Channel 30 after applying the UHF dipole adjustment is 40.3 dBu.

⁴ *TVStudy* Program, Version 2.2.5.



PROXIMITY TO AM DIRECTIONAL ANTENNA

It is proposed that WSJV transmit on Channel 30 using WSBT-TV's existing antenna and transmission line.⁵ This equipment is currently mounted on the WSBT-TV tower structure located within 3 kilometers of directional AM station WSBT 960 kHz (Facility ID No. 73985), which operates directionally in the day and night modes.⁶ WSBT-TV's tower has been detuned and the Applicant does not propose to install or modify any equipment on the existing structure. Because the changes proposed for WSJV fall outside the criteria in 47 CFR 1.30002, they are accordingly presumed to have no significant effect on WSBT(AM). Therefore, a grant of this application need not contain a condition that requires AM antenna system measurements to be performed.

ENVIRONMENTAL IMPACT

The proposed use of an existing broadband antenna does not exceed the criteria outlined in 47 CFR § 1.1307(a) for certain types of facilities that may significantly affect the environment do not apply. With regard to the rules for limiting human exposure to radio-frequency (RF) energy in 47 CFR § 1.1307(b), this application seeks authority to operate a television broadcast antenna in full compliance with those guidelines as described in detail below. The technical parameters specified in this application are as follows:

Frequency :	566 - 572 MHz (UHF Channel 30)
Effective Radiated Power:	258 kW
Antenna Type:	Dielectric Model TUA-O4-16/64H-1-T-R
Antenna Polarization:	Horizontal
Antenna Height:	309.1 meters AGL
Location coordinates:	41-37-00.0 N, 86-13-01.0 W (NAD83)
Site elevation:	264.9 meters AMSL
Overall tower height:	319.5 meters AGL
FCC ASRN:	1030677; Constructed in 1962

⁵ WSBT-TV is currently licensed to operate on pre-auction Channel 22 using a Dielectric Model TUA-O4-16/64H-1-T-R broadband panel antenna system, see FCC File No. BLCDDT-20090224ABF.

⁶ The WSBT-TV tower is located within one wavelength of WSBT's directional AM antenna and is more than 36 electrical degrees in height at the AM frequency. A wavelength at 960 kHz is equal to 312.3 meters and the WSBT-TV tower is 368.3 electrical degrees in height.



Using the methodology for predicting power density levels for television broadcast antennas outlined in *FCC OET Bulletin No. 65, Edition 97-01*, (OET-65), the proposed facility is calculated to produce a maximum power density of $3.66 \mu\text{W}/\text{cm}^2$ at points 2 meters above ground (approximate human head height). This exposure level was determined using 20 percent antenna relative field, which is a conservative value for a typical UHF antenna. The maximum exposure limits applicable to Channel 30, as determined in accordance with 47 CFR § 1.1310 for uncontrolled and controlled situations, are $377 \mu\text{W}/\text{cm}^2$ and $1,887 \mu\text{W}/\text{cm}^2$ respectively. Because the worst-case exposure level determined for the proposed facility is not more than 5% of those guidelines and considering that the existing tower location is fenced and suitable warning signs are posted, no further showing of compliance is necessary. Accordingly, this application complies with the RF exposure limits and is categorically excluded from environmental processing by 47 CFR § 1.1306.

Steps to limit exposure to persons authorized to access the transmitter site will be consistent with the appropriate recommendations in OET-65. All maintenance and other related work to be performed at elevations higher than 2 meters above ground will be coordinated to prevent exposure to RF fields in excess of the controlled limit. Such preventative steps shall include reducing power or shutting down the facility.

Respectfully submitted,



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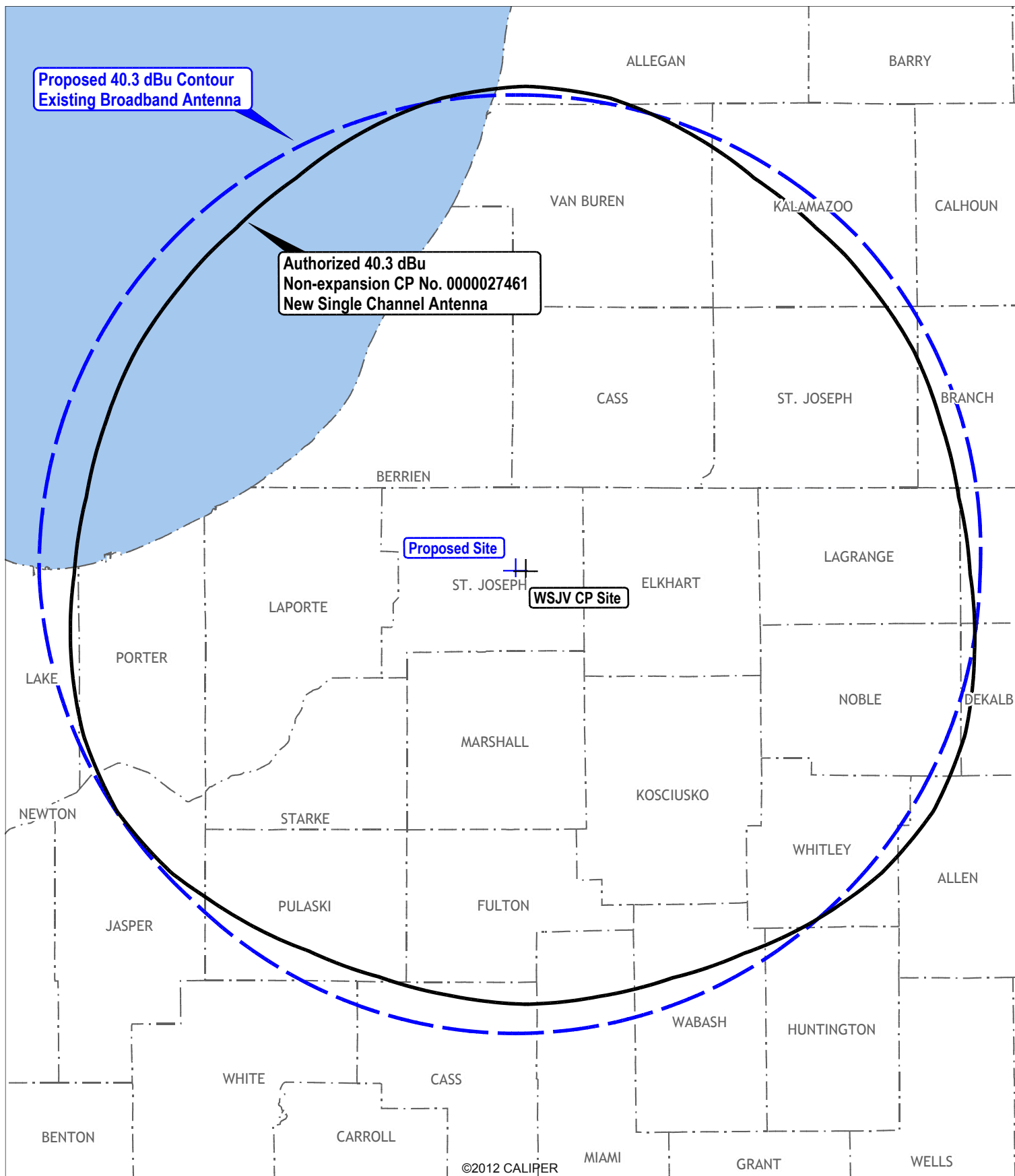
October 10, 2019

Attachments:

Figure 1 – Present & Proposed Service Contours

Figure 2 – Proposed City-Grade Contour

Figure 3 – TVStudy Analysis Summary



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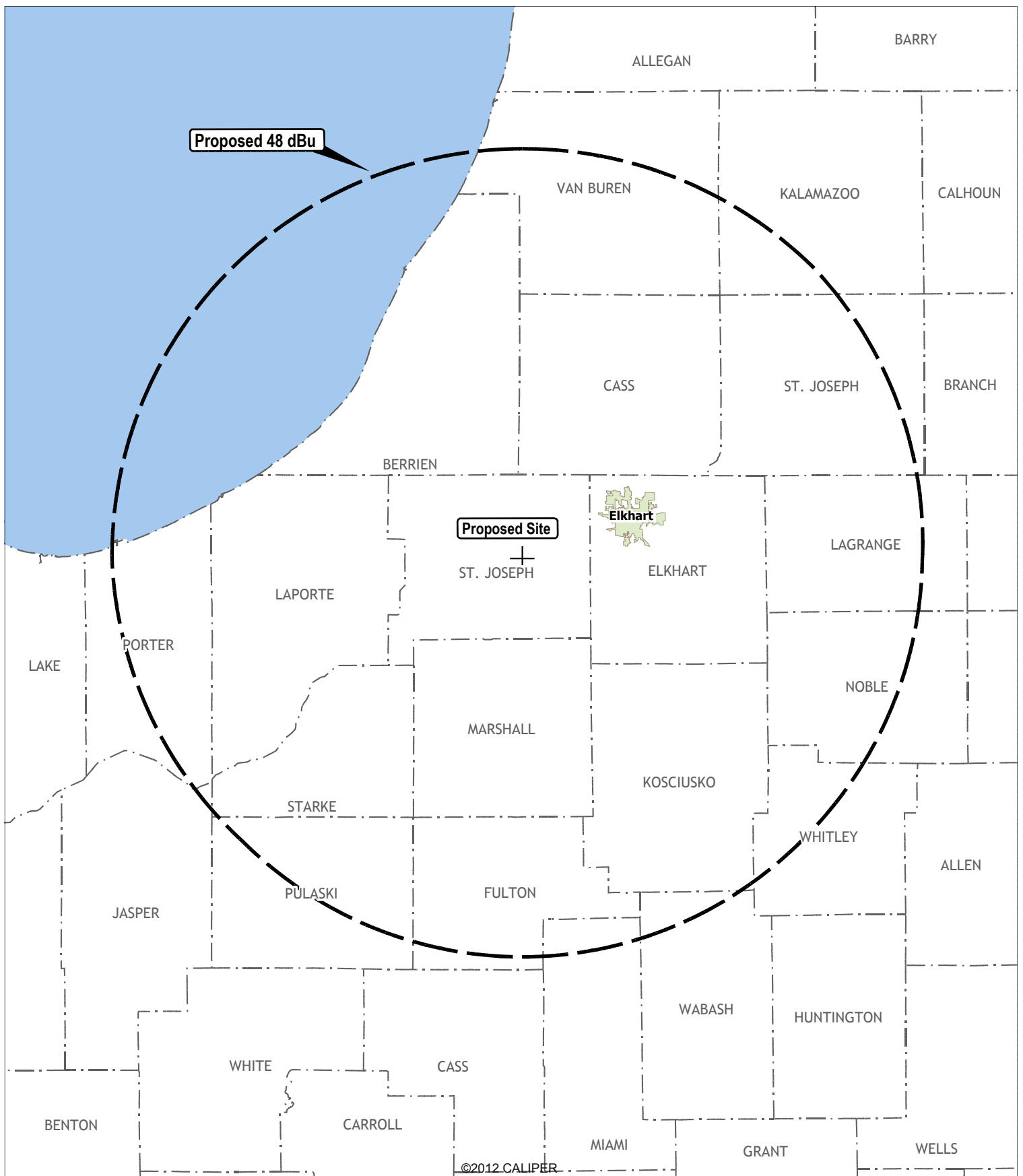


FIGURE 2
PROPOSED CITY-GRADE CONTOUR
COVERAGE OF PRINCIPAL COMMUNITY
WSJV 258 KW ERP 332.6M HAAT CH. 30
ELKHART, INDIANA

October 2019

Study created: 2019.10.09 19:10:40

Study build station data: LMS TV 2019-10-09

Proposal: WSJV D30 DT APP ELKHART, IN
 File number: WSJV30 CP-MOD 20191009
 Facility ID: 74007
 Station data: User record
 Record ID: 574
 Country: U.S.
 Zone: I

Search options:
 Non-U.S. records included

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
Yes	WSBT-TV	D29	DT	CP	SOUTH BEND, IN	BLANK0000034389	0.0 km
Yes	WSBT-TV	D29	DT	BL	SOUTH BEND, IN	DTVBL73983	0.0
No	WGTE-TV	D29	DT	LIC	TOLEDO, OH	BLEDT20031110AKO	231.4
No	WDJT-TV	D29	DT	CP	MILWAUKEE, WI	BLANK0000076654	217.7
No	WDJT-TV	D29	DT	BL	MILWAUKEE, WI	DTVBL71427	217.8
Yes	KLJB	D30	DT	CP	DAVENPORT, IA	BLANK0000034774	348.3
Yes	KLJB	D30	DT	BL	DAVENPORT, IA	DTVBL54011	348.3
Yes	WEIU-TV	D30	DT	CP	CHARLESTON, IL	BLANK0000029172	287.8
Yes	WEIU-TV	D30	DT	BL	CHARLESTON, IL	DTVBL18301	287.8
No	WKPC-TV	D30	DT	CP	LOUISVILLE, KY	BLANK0000034634	362.7
No	WKPC-TV	D30	DT	BL	LOUISVILLE, KY	DTVBL21432	362.7
No	WKMR	D30	DT	LIC	MOREHEAD, KY	BLANK0000075044	451.2
Yes	WNEM-TV	D30	DT	CP	BAY CITY, MI	BLANK0000080625	283.2
Yes	WNEM-TV	D30	DT	BL	BAY CITY, MI	DTVBL41221	283.3
No	WHIZ-TV	D30	DT	CP	ZANESVILLE, OH	BLANK0000068718	402.6
No	WHIZ-TV	D30	DT	BL	ZANESVILLE, OH	DTVBL61216	402.5
Yes	WPXE-TV	D30	DT	CP	KENOSHA, WI	BLANK0000068030	214.2
Yes	WPXE-TV	D30	DT	BL	KENOSHA, WI	DTVBL37104	215.0
Yes	WNIT	D31	DT	CP	SOUTH BEND, IN	BLANK0000024784	2.4
Yes	WNIT	D31	DT	BL	SOUTH BEND, IN	DTVBL41671	2.4
No	WMYD	D31	DT	LIC	DETROIT, MI	BLANK0000081119	267.7
No	WMKG-CD	D31	DC	CP	MUSKEGON, MI	BLANK0000034413	173.3
No	WMKG-CD	D31	DC	BL	MUSKEGON, MI	DTVBL33869	181.8
No	WDTN	D31	DT	CP	DAYTON, OH	BLANK0000082150	268.0
No	WDTN	D31	DT	BL	DAYTON, OH	DTVBL65690	268.0
No	WITI	D31	DT	CP	MILWAUKEE, WI	BLANK0000062874	214.2
No	WITI	D31	DT	BL	MILWAUKEE, WI	DTVBL73107	214.2
No	CFTV-DT(1)	D30	DC	LIC	LEAMINGTON, ON	BLANKCANLP389	301.2
No	CITS-DT-2	D30	DT	LIC	LONDON, ON	BLANKCANADA185	426.5

No non-directional AM stations found within 0.8 km

Directional AM stations within 3.2 km:
 WSBT 960 L DA2 D SOUTH BEND, IN BL
 WSBT 960 L DA2 N SOUTH BEND, IN BL

Record parameters as studied:

Channel: D30
 Latitude: 41 37 0.00 N (NAD83)
 Longitude: 86 13 1.00 W
 Height AMSL: 574.0 m
 HAAT: 332.6 m
 Peak ERP: 258 kW
 Antenna: Omnidirectional
 Elev Pattn: Generic
 Elec Tilt: 0.50

40.3 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	258 kW	342.9 m	91.0 km
45.0	258	344.9	91.2
90.0	258	322.0	88.7
135.0	258	317.7	88.2
180.0	258	319.1	88.4
225.0	258	318.9	88.4
270.0	258	343.4	91.0
315.0	258	342.7	91.0

Database HAAT does not agree with computed HAAT
 Database HAAT: 333 m Computed HAAT: 331 m

**Proposal is within coordination distance of Canadian border
 Distance to Canadian border: 258.4 km

Distance to Mexican border: 1895.1 km

Conditions at FCC monitoring station: Allegan MI
 Bearing: 11.0 degrees Distance: 112.0 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
 Bearing: 270.5 degrees Distance: 1602.3 km

Study cell size: 1.00 km
 Profile point spacing: 0.50 km

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

---- Below is IX received by proposal WSJV30 CP-MOD 20191009 ----

Proposal receives 0.51% interference from scenario 1
 Proposal receives 0.51% interference from scenario 3
 Proposal receives 0.89% interference from scenario 5
 Proposal receives 0.75% interference from scenario 6
 Proposal receives 0.89% interference from scenario 7
 Proposal receives 0.75% interference from scenario 8
 No IX check failures found.